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ARTICLE I.—*Clinical Illustrations of Fever, comprising a report of the cases treated at the London Fever Hospital* 1828-1829. *By* ALEXANDER TWEEDIE, M.D. *Member of the Royal College of Physicians of London; Physician to the Fever Hospital, &c. London*, 1830. *Pp.* 204, 8*vo.*

We have seldom met with a work, of so unassuming a character as the present, from the perusal of which we have derived more satisfaction.

The primary objects of the author are to present a brief statistical view of fever, as it has prevailed in London during the last ten years, and to illustrate its pathology by a clinical report of the cases treated, during twelve months, in the fever hospital of that city.

Dr TWEEDIE has evidently studied the disease with considerable attention, and though his pathological conclusions are in a very great degree biased by preconceived theoretical notions, yet upon the whole, the valuable facts he has presented to the public are related with great clearness and candour, while they are all capable of a highly important practical application.

Whatever may be our differences of opinion as to the relation which exists between fever and local disease, it is all important, in a therapeutical point of view, to ascertain the frequency with which the two are conjoined; as well as the organs in which, in the various febrile affections, the latter ordinarily occurs. Of course, this can be effected only by an extensive collection of facts progressively accumulated; and it is in adding to our general stock of knowledge in relation to the points referred to, that the chief interest of the work before us consists.

The volume commences with a summary of the author's views as to the nature of fever. He believes it to be primarily a general disease, which, however, in by far the largest proportion of cases, becomes, in its progress, complicated with some local inflammation; the latter being the effect of the primary disturbance constituting the fever.

"In every case" he observes "of genuine fever, there is not one, but several organs affected; the affection, in the first instance at least, is functional, however soon this functional disturbance may pass into vascular excitement, and afterwards into inflammation.

"Every one who has attentively studied the order of invasion of the symptoms, and more particularly those who have had personal experience of fever, must be satisfied that the brain and nervous system are early and primarily engaged in the febrile action; the disturbance in the brain is, in the beginning, simply functional, though it may, sooner or later, according to circumstances, assume an inflammatory character.

"The circulation next partakes in the disorder; there is generally, though not invariably, quick pulse and heat of skin, to which, as a consequence of the previous condition of the sensorium, succeeds a vitiated state of the secretions. Hence the furred tongue, thirst, depraved taste, and turbid urine, observed in fever.

"It is evident, that in this state of febrile excitement, to which the term simple fever may with strict propriety be applied, there is no preponderance of action in any organ; all the parts of the system partake equally in the general disturbance. This may continue for an uncertain period, probably for a few days, when it is either brought to a termination by proper measures, or subsides spontaneously.

"When once the torch is lighted, when the circulation is quickened, and the blood consequently impelled with greater velocity through organs whose functions are already disordered, the transition from excitement to inflammation is often rapid. When there is a predisposition to disease in any part, the febrile action is most

likely to prey on the organ so predisposed, and the period of the fever at which the inflammation comes on, as well as its intensity, will depend on a variety of concurrent circumstances in each individual case."

The inflammation which supervenes in the progress of fever, Dr TWEEDIE conceives to be of a less intense kind than in the ordinary plegmasiæ.

"Fever is not inflammation; it is, therefore, not cured by remedies that effectually remove the latter, though its violence may be mitigated, and its duration shortened, by the judicious, modified application of the same measures."

Such are the outlines of our author's theory; a theory which, when we consider its palpable inconsistencies, and total variance with nearly all the facts he has presented, we feel surprised he was not himself the first to reject.

Upon a strict analysis of the phenomena of fever, it will be discovered, we are persuaded, that, in every instance, the disturbance of function upon which it depends is, from the very onset of the disease, confined to a few organs. In a large number of cases, the digestive organs present the first deviations from health; aversion from food, nausea, a sense of uneasiness at the præcordia, general lassitude and transient pains in the limbs are, in fact, among the primary symptoms of fever, in a majority of instances. In other cases, it is true, that the brain is the organ in whose functions the disturbance first occurs. This is far, however, from being universally the case, as Dr TWEEDIE has imagined. The foregoing remarks refer, of course, to that class of diseases which has been denominated idiopathic fever; for it is well known that a certain grade of irritation, or inflammation, seated in almost any tissue or organ of the body, will give rise to the phenomena of fever. Hence febrile symptoms are a concomitant of all the active phlegmasiæ.

We are far from pretending that in the commencement, or in every case of fever, inflammation is invariably present; on the contrary, the primary local affection may be confined to a state of simple irritation, or of morbid excitement; the relation between which and inflammation is, however, so intimate, that it very generally passes into the latter, if continued or frequently repeated.

With respect to what he has denominated simple fever—that is, fever independent of any local disease, Dr TWEEDIE informs us in chapter iii. that during the period included in the present report, one hundred cases of this description came under treatment; in

these "the disturbance in the system was general; there was no evidence by symptoms of affection, either in the head, chest or belly."

The disease was characterized, we are told, by increased heat, accelerated pulse, thirst, and general functional disorder. The danger was comparatively trifling, and the mortality small. "If danger arose, it was always to be traced to some local mischief, which had supervened in the course of the disease."

Our author appears to have been aware that the evidence upon which he predicates the absence of local disease in such cases, is very far from being conclusive; for although he asserts that no preponderance of action existed in any organ "that could be detected by symptoms," he immediately adds, and with great truth:—

"But when we recollect how often organic disease steals on, undetected by diagnostic signs; how much we are at times deceived by latent local diseases, the condition of the organs in what is termed simple fever requires minute diagnostic investigation."

We may observe that in fifty-four fatal cases of fever, being the whole number that the author subjected to autopsical examination, evidences of recent local disease of one or other of the organs were invariably detected.

With these remarks we take leave for the present of Dr TWEEDIE's pathological views, and proceed to a consideration of the facts which he has presented to us.

The period selected for the present report embraces twelve months, ending September 1, 1829.

Within this period there were admitted five hundred and twenty-one cases of continued fever, viz. two hundred and twenty-seven males and two hundred and ninety-four females; of these four hundred and forty-five were cured; three were sent to the small pox hospital, and seventy-three, viz. thirty-two males and forty-one females, died.

The rules of the hospital prohibit the reception of children under six years of age, and of the whole number admitted only twenty were under ten years.

Judging from a very interesting table which is given of the comparative ages and mortality of the patients treated, it would appear that the period of life most liable to fever is between fifteen and twenty, and the next, between twenty and twenty-five; of the five hundred and twenty-one cases, two hundred and fourteen occurred between the ages of fifteen and twenty-five. As we advance in the

scale of human existence, it would seem that the susceptibility to fever diminishes.

"To account" remarks the author "for the marked susceptibility to fever between the ages of fifteen and twenty-five, it should be recollected, that many young persons come for the first time to the metropolis about this age; most of them having exchanged the pure atmosphere and regular habits of the country for the more confined and pernicious mode of life of this overgrown metropolis."

In this statement Dr TWEEDIE has, we presume, more especial reference to fever of a typhoid character, which is the form of the disease most generally met with in the patients of a fever hospital.

Passing by the interesting details which constitute the second chapter of the work, we proceed to the consideration of our author's observations in relation to the connection between local inflammation and fever.

It would appear that the brain was the part most frequently affected in the cases to which the present report more particularly refers. Of the five hundred and twenty-one cases, one hundred and fourteen, we are informed, were accompanied by well marked cerebral affection, indicated by one or more of the following symptoms: pain, giddiness, sense of weight or fulness, watchfulness in the head, and, in the advanced stages, delirium, coma, spasms, or more rarely, convulsions.

"In a large proportion of the cases, the condition of the brain constituted only part of the danger, other organs being at the same time inflamed; for example, in twenty-six the head and chest, in thirty the head and belly, and in fourteen the head, chest and abdomen, were simultaneously affected. It thus appears, that in one hundred and eighty-four cases, the brain was seriously involved in the febrile action."

On referring to the table which is presented of the morbid appearances observed in the fatal cases, we find that in thirty-seven out of the fifty-four examined after death, the brain or its membranes showed evident marks of the existence of previous inflammation.

"The brain" says Dr TWEEDIE, "being so frequently implicated in fever, the most vigilant measures should be at once adopted, on the very first warning of the approach of inflammation, to prevent those changes of structure which so speedily take place, and render the situation of the patient almost hopeless."

It was observed that the indications of cerebral disease were most frequently met with in the cases admitted during the months of May, June and July; of one hundred and thirty-three admitted during this quarter, fifty-five had inflammation of the brain.

In one hundred and three of the cases of fever comprised in the present report, the respiratory organs were more or less severely affected; of these about one-third died, indicating the extreme severity of this form of febrile disease. These affections were most prevalent during the months of October, November, December and January. Of one hundred and eighty-seven patients admitted during these months, sixty-one presented some form of thoracic inflammation. In May also, which was unusually cold, pulmonary affections again prevailed; of fifty-six cases admitted in the course of this month, fourteen had severe symptoms of inflammation in the chest.

As to the particular seat of the thoracic inflammation, we are informed that it very frequently occurred in the bronchial mucous membrane.

"At some periods of the year, and in particular epidemics, bronchial inflammation forms the principal characteristic of fever, and gave origin to the term catarrhal fever, employed by the older writers.

"In the more severe forms of symptomatic bronchitis, and especially when the patient has suffered repeatedly from it before the attack of fever, the enlarged air-cells become clogged with viscid mucus, and serous effusion into the parenchyma of the lungs rapidly follows. A very dangerous consequence of this is, the imperfect arterialization of the blood, which is known by the blue colour of the lips, the dusky leaden hue of the face and upper extremities, while the functions of the brain become more or less embarrassed, according to the severity of the bronchial affection. The patient becomes first delirious, then insensible; the pulse soft and feeble; the tongue covered with a deep brown or almost black crust; while the temperature of the skin, more especially of those parts at a distance from the centre of the circulation, falls below the natural standard. These symptoms indicate great danger, for although some individuals recover from this state, in whom it is probable that the blood has been deprived of a small portion of its oxygen only, yet the majority die from the destructive effect of unoxygenated blood on the brain and nervous system."

Inflammation of the substance of the lungs, or genuine pneumonia, occurred in a considerable proportion of cases. It was observed particularly in the fevers of December and January. Inflammation of the pleura was, also, evidenced in many instances by the symptoms during life and the appearances found upon dissection. In some, adhesions more or less firm existed between the opposite surfaces of the pleura; in others, a layer of coagulable lymph covered the inflamed surface of the pleura; and in several there was effusion of

serum, or of a sero-purulent fluid, in one or both cavities of the chest.

"Though in a few of the cases, the inflammatory action did not extend beyond the pleura, still, in the greater proportion, it had evidently spread to the substance of the lung, producing œdema or hepatization."

As far as we are able to judge from the facts contained in the work before us, the only circumstance in which these instances of thoracic inflammation differed from ordinary cases of bronchitis, pleurisy or pneumonia, consisted in their invariable complication with disease of other organs or tissues. Thus in twenty-six patients inflammation existed at the same time within the thorax and abdomen, and in fourteen within the thorax, abdomen and cranium. In at least fourteen of the cases examined after death, we find that either inflammation or ulceration of the intestinal mucous surface co-existed with the thoracic disease. Superadded, therefore, to the phenomena of bronchial, pleuritic, or pneumonic inflammation, there were present likewise those peculiar to the cerebral and abdominal affections.

This combination of morbid phenomena will account readily for all the symptoms presented by each case; and that such is the fact ample evidence is afforded by the histories of the seventy-three cases detailed at length by Dr TWEEDIE. Hence so far from the local disease having been the result of the fever, as the author imagines, the latter was in every instance the product of the first.

With respect to abdominal disease, it is stated that seventy-one cases presented prominent symptoms of inflammation within this cavity. On reviewing the morbid appearances observed in the fifty-four bodies submitted to autopsical examination, it is found that in sixteen there existed ulceration of the intestines; in thirteen inflammation of the mucous membrane; in two or three increased vascularity, and in two perforation. In five there was peritonitis with effusion of lymph, in one slight inflammation of the peritoneum, and in one invagination of the jejunum. In thirteen cases there was no disease of any part of the intestinal canal, nor of any of the abdominal viscera. The various changes observed in the intestinal mucous membrane are more particularly considered when the author treats of typhus fever, of which he presumes a morbid condition of this membrane to be one of "the specific effects."

"In a large proportion of the bodies examined after death," says Dr TWEEDIE, "a remarkable softness of the spleen was observed,

accompanied with considerable enlargement of this organ. Its texture was often so loose that it broke down from the slightest pressure."

On referring to his account of the morbid appearances detected after death, we find this condition of the spleen occurred in seven instances; Dr TWEEDIE appears to consider it as resulting from a morbid condition of the fluids.

The subject of the ensuing chapter (chap. iv.) is typhus fever. The term typhus the author is inclined to restrict to those fevers in which the brain and nervous system are early and severely affected, accompanied with symptoms denoting a morbid condition of the mucous membrane and of the skin, and "a tendency to what is known by the term putrescency." This tendency, he presumes, is indicated, especially in the advanced stages of the disease, by the crassamentum of the blood, instead of forming a firm coagulum; being loose, small in proportion to the quantity of serum, and so soft, that it breaks readily on attempting to raise it, resembling in consistency half boiled currant jelly.

"Not only" he observes "is the blood changed in typhus fever, but as a consequence of this morbid state of the blood, the secretions are more or less vitiated. Hence the clammy disagreeable condition of the mouth; the depraved taste; the dry sordes on the teeth and lips; the brown or black incrustation of the tongue; the peculiar smell from the body, which is easily recognized by those who have much experience in fever, while the excretions are much more fetid than in any other disease of a febrile nature. These morbid changes are evidently produced by the action of the febrific poison on the brain and nervous system, and not by its primary operation on the fluids; in this view alone are the principles of the humoral pathology at all applicable to the phenomena of fever in general."

While we admit with Dr TWEEDIE that the blood undergoes a morbid change in this as well as in other diseased conditions of the system, we deny, most positively, that such a change is in any manner connected with a tendency to putrefaction. If any confidence is to be placed in the result of experiments, frequently repeated, we are warranted in asserting, that the dissolved blood so frequently met with in cases of typhus and congestive fever, remains as long without experiencing decomposition, after being drawn from the arm, as that extracted in any other disease.

The symptoms which mark the commencing stage of typhus fever, are all referred by Dr TWEEDIE to functional disturbance of the

brain. To this condition of things he thinks the term simple typhus is peculiarly applicable; it corresponds, he conceives, precisely with the adynamic fever described by PINEL and other French writers. Simple typhus is not, it is stated, very common in Britain, though certain epidemics have assumed more or less this character; or a few cases are occasionally met with, when the prevailing fever has a very different type. More generally, typhus fever he has found to be accompanied with local congestion, or inflammation, either in the brain, chest, or abdomen.

When inflammation of the brain occurs, it is described to be "of a low character." It is indicated by the flushing of the face, suffusion of the eyes, and more constant delirium, while the pulse is soft, small and rapid.

Our author regards disease of the bronchial and intestinal mucous membranes as *essential* constituents of typhus fever. In certain seasons, however, the lungs become more severely affected.

"Typhus fever," it is remarked, "with intense bronchitis, is, perhaps, the most hopeless of all the forms: the symptoms in the chest are often very obscure, and therefore very generally overlooked at first; and when the bronchial membrane becomes swollen, and the air-cells filled with secretion, the blood becomes deprived of its due proportion of oxygen, and thus all the effects of unoxygenated blood on the brain take place: such cases are generally fatal."

The mucous coat of the intestines was very generally found to have been the seat of inflammation in the cases of typhus fever referred to in the report of Dr TWEEDIE. In the fifty-four cases examined after death, eight presented simple inflammation of the membrane, to a greater or less extent, and sixteen inflammation with ulceration; in two instances perforation had taken place through the whole of the coats. Hence in twenty-four cases there existed those lesions of the mucous membrane which the doctor considers as peculiar to fever.

Our author regrets that we have no diagnostic signs by which the existence of gastro-enteritis in fever can be with certainty determined. The symptoms generally laid down as such he considers to be entirely fallacious.

Redness of the tongue, he is disposed to believe, is, in many instances, merely a local affection, and not at all an index of the existence of gastro-enteritis.

"That this condition of the tongue has been often remarked in cases in which the mucous membrane of the bowels has been found

inflamed after death, accords" he remarks, "with my own experience, as well as with that of the best informed writers; but on the other hand, I must state, that I have met with this vermilion colour when no such morbid appearance was discovered after death."

Pain, even when pressure is applied, Dr TWEEDIE has found to be very generally absent. This, he believes, may be accounted for by the pressure not being applied directly over the inflamed portion of the bowel, or from the impossibility of bringing the opposite surfaces of the inflamed intestine in immediate contact. In some instances, however, he has found the inflammation to extend through all the coats, when the ordinary symptoms of peritonitis supervene.

Neither has the author found the number or appearance of the discharges from the bowels to indicate, with any certainty, the existence of gastro-enteritis.

"In some cases" he remarks "there is diarrhœa, the stools consisting of fluid fœcal matter; sometimes there is blood mixed with the stools; in other instances, the motions are thin and watery, and contain little feculent matter; and occasionally, I have observed constipation alternating with diarrhœa. In many instances, however, there is no diarrhœa, the bowels requiring the occasional exhibition of aperients for their regulation; and this may continue through the whole course of the disease, even to the fatal termination.

"When the mucous membrane of the colon is inflamed, the symptoms have more the character of dysentery; the discharges being frequent, small, and bloody, and their evacuation from the bowels being accompanied with much pain.

"Though the signs of gastro-enteritis are very obscure during life, it leaves, after death, evident traces of its existence. The appearances vary according to the duration and intensity of the previous disease. In some instances there was simple redness, or injection, in patches of various extent, the colour varying from a bright scarlet to a deep cherry red or almost brown colour: this latter shade denoted a more intense degree of inflammatory action, with commencing disorganization of the membrane; and when there had been bloody diarrhœa, the membrane appeared in several places swollen, or ecchymosed, and its vessels loaded with blood."

"Sometimes a remarkable softness of the mucous membrane was observed, so that it could be easily scraped off. This state of softening, I apprehend, frequently passes into ulceration."

In sixteen of the cases in which inflammation of the mucous membrane had existed, ulceration was observed. In eight instances the ulceration occurred in the ileum; in two in the ileum and cœcum; in one in the cœcum alone; in another in the ileum, cœcum and

colon, and in four in the ileum and colon. In many of these cases the mesenteric glands were more or less enlarged; some of them were of the size of a walnut, and on being cut into gave exit to a small quantity of pus.

According to the observations of Dr TWEEDIE, ulceration of the bowels in fever most frequently occurs at the termination of the ileum, near the ileo-cœcal valve.

The ulcerations varied in size and depth; some not being larger than a small seed, others extending to the size of a half-crown piece. Their depth depended upon the number of the coats through which the ulceration had extended.

Sometimes the mucous membrane alone was removed; in others the muscular also; the peritoneum forming the bottom of the excavation; these different states of ulceration were not unfrequently met with in the same portion of intestine. The mucous membrane surrounding the ulcers was more or less injected.

"Sometimes bright red granulations covered the floors of the ulcers, and in one case, especially, there were two or three small ulcers which evidently showed a tendency to cicatrise. That this process does take place in the intestines" remarks Dr TWEEDIE, "I have no doubt, though I have never seen an instance of unequivocal cicatrix."

Our author presumes that ulcerations of the mucous membrane are produced in two different modes. They either succeed to a softening and destruction of the membrane from preceding inflammation, or, the mucous glands about the lower part of the ileum becoming enlarged, an irritation occurs in the ducts or follicles, which become inflamed and finally destroyed by ulceration. These glands being very numerous and situated close to each other, the follicular ulcers frequently become confluent; and hence, according to Dr TWEEDIE, the extent of the patches observed in some of the cases.

With respect to the opinion of ANDRAL, that intestinal ulcers often succeed to pustules of the mucous membrane, and that these ulcers are produced in a manner very analogous to those which succeed to apthæ of the mouth, our author remarks, that with all the respect and deference to which so enlightened a pathologist is entitled, he must venture to differ from him on this point.

"I have," says Dr TWEEDIE, "carefully looked for such pustulations of the mucous membrane in the dissection of patients at the fever hospital, but have never seen a single example."

"It is probable, however," he adds, "that this distinguished anatomist may have mistaken the softening and destruction of inflamed mucous glands for pustulation of the membrane."

In the two instances already referred to, in which perforation of the intestine was produced by progressive ulceration of its coats, the patients were destroyed by the rapid peritoneal inflammation which ensued.

Dr TWEEDIE knows of no very decided symptoms from which the existence of ulceration in the intestines can be determined during life. He has, however, very generally presumed its presence when the fever has run on for a lengthened period, producing great emaciation, accompanied with a peculiar harsh, dry, or shrivelled appearance of the skin, black sordes on the teeth, with sympathetic disturbance in the brain: when the inflammation and ulceration existed in the colon, dysenteric symptoms were always present.

In severe cases of typhus fever, in addition to the disease of the brain and of the mucous membrane, both the cutaneous and glandular systems became affected; giving rise to petechiæ, gangrene, glandular swellings, or erysipelatous inflammation of the surface of the body. Did our limits admit of it, we should be pleased to follow our author in his observations upon each of these phenomena; we must content ourselves, however, by merely remarking, that with respect to petechiæ, Dr TWEEDIE did not perceive that their occurrence was alone indicative of a dangerous form of fever. They were present in fifteen cases, only four of which terminated fatally. He has known them, when of a florid colour, to disappear speedily, after the patient had been removed to a pure atmosphere, and after the administration of a few doses of an aperient.

In the 5th chapter the causes of fever are considered. Its close connection with scarcity and privation are noticed; some remarks are then made upon the influence which a certain unknown condition of the atmosphere, which Dr TWEEDIE supposes is connected with the combined effects of heat and moisture, exerts over the prevalence of fever. The most common causes, however, to which the production of the latter is referred, are impure air, malaria and contagion; in relation to which the ordinary arguments and facts are adduced. The next chapter treats of the mortality of fever; on this subject the whole of the facts detailed are highly interesting; they do not admit, however, of being condensed; and as no general conclusions are attempted to be drawn from them; we

are under the necessity of passing them by without further notice. Chapter vii. comprises the history of the symptoms, progress and treatment of the seventy-three fatal cases, with the morbid appearances observed in such as were submitted to autopsical examination. The author's views, in regard to the proper treatment of fever follow. To these the remainder of our observations will be confined.

From the decided benefit which resulted from blood-letting in the cases of fever treated at the hospital, Dr TWEEDIE conceives himself fully warranted in affirming, that there are few cases of the disease which are not materially benefitted by its judicious employment; and he states that he often had reason to regret that it had not been performed at the commencement of the attack. In the instances in which it was early resorted to, he found it to moderate the violence of the fever, to shorten its duration, and to remove entirely the tendency to local inflammation. In several cases, the abstraction of blood at the very onset of the symptoms, had the effect of entirely extinguishing the disease.

"In no case" he observes "was bleeding more decidedly beneficial than in severe head-ache, with flushing (of the face), restlessness, acute delirium, and watchfulness: it often proved the best means of tranquilizing the patient, and inducing sleep; when, however, the delirium was of the low muttering kind, without pain of the head or flushing, showing a low form of neglected inflammation of the brain, the stage for active treatment had passed over, and experience, therefore, of the doubtful advantage, if not positive injury, resulting from the (general) abstraction of blood in such cases, led me to trust to small leechings, cold washes, and blisters to the nape."

The author very justly observes, that the state of oppression and apparent debility induce practitioners, too often in such cases, to prescribe a tonic plan of treatment.

"But it should be remembered" he adds "that the low, depressed condition of the patient, is the effect of inflammation of the brain, or its membranes, which will be inevitably increased by the administration of cordials."

"When the pulse was sharp, and the eye injected, notwithstanding apparent prostration and dry brown coating on the tongue, I have seen (the abstraction of) a few ounces of blood from the arm of very great benefit. I am convinced that such symptoms are frequently brought on from the neglect of early evacuations and of the cooling treatment in the beginning of the disease."

The observations of Dr TWEEDIE on the proper use of the lancet in fever are throughout in the highest degree judicious; they will

be found, we are convinced, to accord with the experience of every judicious practitioner.

In many cases the combination of topical with general blood-letting was found necessary in order to subdue visceral inflammation. The author often observed, that after a full bleeding had reduced the power of the pulse, the local symptoms were most successfully overcome by the application of cups or leeches as near as possible to the affected organ.

"When the local symptoms" it is remarked "have been allowed to go on unarrested for some time, especially when the powers of the patient are low, it is often a nice point to determine between general and local bleeding. If the pulse be firm, and the skin hot, there can be no question that the abstraction of a few ounces of blood from the arm is decidedly the preferable practice. If, on the other hand, the pulse be soft, though rapid, and the skin moist, the application of leeches, or the cupping-glasses, is the most likely means of affording relief. It is in vain to expect benefit from local bleeding if there be indications of general excitement; and it is equally certain that when the capillaries of an inflamed part have become much distended, general bleeding will not remove this condition; it is only to be effected by local depletion."

When the situation of the local disease is such as to admit of the application of cups, the author considers the latter infinitely preferable to leeches; the blood being drawn off more rapidly and with less fatigue to the patient, while the quantity can be regulated according to the effects produced.

From the frequency with which abdominal inflammation occurs in fever, Dr Tweedie conceives that there is no part of the body which requires the topical abstraction of blood so frequently as the abdomen. Not only did he resort to it in those cases accompanied with great tenderness of the epigastrium; but in all those also in which, in the absence of direct evidence, there was reason to suspect an inflamed condition of the intestines to exist, the abdomen was covered with leeches, and afterwards a hot poultice applied, for the two-fold purpose of encouraging the flow of blood, and of acting as a fomentation. He, however, seldom found this, or indeed any other mode of treatment of much avail, unless adopted before the tympanic distention of the abdomen appeared.

In some cases of diarrhœa, which, though unattended by pain or dysenteric symptoms, he thinks probably depended on inflammation of some portion of the mucous membrane of the bowels, local depletion was found very serviceable

Of the effects of emetics in fever, Dr TWEEDIE appears to have had but little experience; he considers them serviceable only in mild cases unattended with organic inflammation, and occurring in young vigorous subjects.

Next to judicious blood-letting, our author is convinced that there is no class of remedies so decidedly useful in fever as purgatives. In mild cases, without any local determination, their exhibition was, alone, sufficient to subdue the disease. In all the cases, also, in which the excitement ran high in the commencement of the fever, more especially when the brain was seriously affected, he has found that, after venesection had been carried to a proper extent, the employment of purgatives gave very great relief. After the bowels were once thoroughly evacuated, a gentle action was kept up during the whole course of the disease, unless when particular circumstances occurred to render the practice improper.

Dr TWEEDIE is convinced, however, that indiscriminate purging in fever is equally as injurious as indiscriminate bleeding; he is persuaded that much harm has resulted from continuing the daily administration of purgatives in tedious cases of fever; by such a course the powers of the patient are unnecessarily lowered, and the probability of ultimate recovery rendered more doubtful.

"Though the French writers condemn too indiscriminately the exhibition of purgatives by British practitioners, still" remarks Dr T. "I conceive the frequency of gastro-intestinal inflammation in fever should be an additional caution against long continued purging."

The employment of mercury in cases of fever is next considered; after noticing the propriety of its exhibition, in combination with other purgatives in the early stages of the disease, and the good effects of the blue pill in cleaning the tongue and inducing a more healthy state of the secretions, when given every second or third night, after the bowels have been fully evacuated; he adds,

"Though I should never think of this, or any other remedy, superseding general or local blood-letting, when the powers of the patient are able to bear these evacuations, still, when the period for active depletion has passed over, or when the symptoms do not yield readily to blood-letting, the administration of mercury assists very much in reducing the inflammatory action, while at the same time it tranquillizes the nervous system. I generally prescribed, after a full bleeding, two grains of calomel, with one of solid opium, in a soft pill, every two, three, or four hours, till some decided impression on the local symptoms was made; it was then given at more distant intervals."

When, however, the full mercurial action is induced, Dr TWEEDIE has observed a great degree of weakness to ensue, by which convalescency was rendered very tedious; often imperfect. From the use of the remedy in cases of children, he has occasionally witnessed troublesome sloughing of the mouth, and even perforation of the cheek, which has often proved fatal.

Dr TWEEDIE has seldom prescribed diaphoretics (under which he includes "the whole tribe of saline medicines,") in fever, from a conviction of their inefficacy. Nauseating doses of tartarized antimony may, however, he conceives, be employed with advantage, in cases of great general or local excitement, as auxiliaries to other measures. Of tartar emetic in doses of one or two grains, he speaks in the highest terms, when the fever is accompanied with bronchial or pneumonic inflammation; in conjunction with the lancet he conceives it to be one of our very best remedies in these cases. We have ourselves experienced advantage from this article under the circumstances referred to, in doses of a similar extent; when, however, gastric irritation or inflammation is present, its use is certainly improper.

Of the propriety of opium or other narcotics in fever, Dr TWEEDIE speaks very doubtingly.

The consideration of the remedies for fever in general closes with a few very judicious observations upon the benefits resulting from cool air and free ventilation; and from cold or tepid sponging, and the local application of cold to the head when the brain is the seat of disease.

The curative measures which were found best adapted to typhus fever are next considered.

The author conceives, that as a general rule, this form of fever neither requires nor bears general bleeding; for the local inflammations with which it is accompanied, he has found the best treatment to be topical bleeding and blisters.

Purgatives, he is of opinion, should also be employed with much caution in typhus. After freely evacuating the bowels in the commencement, such aperients as removed the unhealthy secretions without producing watery stools were employed, as rhubarb, magnesia, senna, or castor oil, with occasional doses of mercurials. When there was any appearance of hæmorrhage from the bowels, these articles were immediately suspended, and thin arrow root or

barley water only allowed. Under such circumstances he has experienced apparent good effects, occasionally, from small doses of turpentine given in mucilage.

When the abdomen is tympanitic, purgatives, he observes, only increase the irritation.

Dr TWEEDIE is among the very few English writers who do not consider wine and stimulants as constituting prominent remedies in the management of typhus fever.

"No remedy" he remarks "in the treatment of fever, has been more abused than wine; and though still given by some practitioners, even in the present day, in every stage and complication, without regard to circumstances or symptoms, yet, as the effects of fever on the various organs are now more minutely traced, the stimulant plan of treatment must, from conviction, eventually be abandoned.

"These remarks apply to the indiscriminate use of wine and other stimuli in fevers, but are by no means intended to convey the idea, that there are no forms of fever, or special circumstances, which not only render this class of remedies proper, but indispensably necessary to save the life of the patient."

Thus in cases where, in the commencement, bleeding and purging have been required, Dr TWEEDIE has repeatedly seen unexpected symptoms of sinking, or some sudden collapse occur, which required the liberal administration of wine, or even brandy, with ammonia. In the advanced stages of the disease, also, when symptoms come on indicative of failure of the nervous and circulating systems, Dr TWEEDIE states that the administration of wine often acts as a charm, by rousing the languid powers, and abating the restlessness; especially where at an early period evacuations have been judiciously employed.

In one-third of the cases of typhus fever treated at the hospital during the months to which the present report refers, wine was employed under the above circumstances; and our author believes, with the happiest effects.

In tedious convalescency, also, he found a small quantity of wine useful in promoting the patient's recovery. The same principles, we are informed, regulated him in the administration of bark and other tonics. The combination of some bitter infusion with an aperient he found particularly useful on the approach of convalescence. The concluding chapter (ix.) treats of scarlatina, its pathology and treatment. Our analysis of the preceding chapters has already so far exceeded the space we had at first proposed to

occupy, that we shall be obliged here to close, without noticing the last. Our opinion of the work we have already stated; though small in respect to the number of its pages, yet by presenting his remarks in a very condensed form, and rejecting all extraneous matter, the author has been enabled to comprise in it a greater amount of important matter than we frequently meet with in works of a much more imposing size and appearance.

ARTICLE II.—*Clinique Médicale, ou Choix d' Observations recueillés à l'Hôpital de la Charité* (*Clinique de* M. LERMENIER). *Par* C. ANDRAL, *Professor à la Faculté de Médecine de Paris, &c. Deuxieme Edition, revue, corrigé et augmentée. Tome I.—II. Maladies de Poitrine. Paris*, 1829.

Clinical Reports; or Selected Cases drawn from the Practice of M. LERMENIER *in the Hospital of La Charité.* By C. ANDRAL, *Professor to the Faculty of Medicine in Paris, &c. The second edition, revised, corrected and enlarged. Volume I.—II. On the Diseases of the Chest.*

The two volumes before us are part of a series of observations which have been published by a gentleman distinguished in the medical school of Paris. The design of the work is to convey the information obtained by carefully noting the various symptoms during the progress of some particular disease, and by comparing these phenomena with the appearances noticed in the examination of the body after death. Emulating the example of BONETUS in his Sepulchretum, and of MORGAGNI in his work De Causis et Sedibus Morborum, the French, more than any other of the nations of Europe, have been engaged of late in promoting the advancement of medical science. The number and character of the observations collected in the volumes before us show how assiduously Professor ANDRAL has availed himself of the opportunities afforded him in one of the most extensive charities appropriated to the reception of those suffering from disease. Having derived instruction from the careful perusal of these records, we recommend them to the attention of the profession generally. Such of our readers as may not have access to the ori-

ginal work, the present analysis will introduce to a portion of the information which it contains.

Every intelligent practitioner will admit the correctness of the premises laid down by our author, that the morbid phenomena will vary in proportion to the nature and intensity of the disease, to the degree of sensibility belonging to the individual affected, and to the number and influence of the sympathetic affections. Pathology would indeed be perfect if the lesion of any particular organ were uniformly indicated by a determinate group of symptoms. For want of this perfection in the diagnostic signs, we must acknowledge the utility of a work which makes us acquainted with the numerous and various symptoms dependent on any particular lesion. In the instance of acute pericarditis with which the book opens, Dr ANDRAL has arranged his observations under three heads. To the first belongs the inflammation of the pericardium, accompanied by those local symptoms which afford a ready diagnosis. Under the second, he has recorded those cases in which difficulty of breathing was the more prominent symptom, and the existence of pericarditis could only be determined by a process of exclusion, showing that the symptoms appertaining to lesions of the other organs in the chest were not present. The third head comprehends the still more rare cases in which even dyspnœa could not be observed, and where the acceleration of pulse, various nervous feelings, and the extreme prostration of strength, were the only notable circumstances during the life time of the patient.

1. *Acute pericarditis, with characteristic symptoms.* Here we are presented with the history of four cases in illustration. A baker, aged thirty-one, had been affected with acute rheumatism for a fortnight, when he was admitted into La Charité. At the period of his admission there existed pain, redness, and swelling of the left elbow and wrist, and of the left knee and foot. During the course of the disease there occurred intense fever, red and rather dry tongue, frequent severe headach, and tenderness of the epigastrium on pressure. In five days he was bled five times, by which he lost sixty ounces of blood; twenty leeches were then applied to the joints. Low diet, emollient drinks, and the occasional application of poultices, completed the treatment. On the sixth day there was a decided amendment, for he was free from pain. At 10 P.M. he was suddenly seized with violent pain in the chest just below the left breast, which continued all night. Though the pain was excruciat-

ing, it was not increased by pressure, by coughing, by breathing, or by any change of position. Chest sonorous. Respiratory sound clear, and remarkably strong. Pulsations of the heart very frequent, tumultuous, intermittent, and irregular as to force. Pulse likewise intermittent, very small, and easily compressed. Countenance pale, pinched, and expressive of great anxiety. Extremities cold. Thirty leeches were applied to the region of the heart. Sinapisms were successively applied so as to cover the limbs. All, however, was in vain: the patient died in twenty-nine hours.

The opening of the dead body exhibited the whole internal surface of the pericardium covered with an exudation, white, soft, membranous, and honey combed. On removing this exudation, the pericardium was discovered of a bright red colour. The heart was perfectly sound. There existed adhesions of the pleura of an ancient date. The lungs were filled with a bloody serous fluid. Redness of the great curvature of the stomach. No other trace of disease in the abdomen, nor any in the brain and its meninges.

The next case is that of a negro, who was likewise attacked with rheumatism, which was relieved by repeated bleedings, purging and the use of Dover's powders; when, on the fourth day, he was seized with pain in the epigastrium and lower part of the sternum. Inspiration short, hurried, and effected by the motion of the ribs and diaphragm. No cough. The chest, when struck, emitted a natural sound. The respiratory sound strong but clear. Pulse very frequent, regular and very hard; while the heart by means of the stethoscope was heard very faintly, and the ear applied to the pericardium perceived only a confused murmur. Forty leeches were directed to the region of the heart. After these a large blister. Great relief was experienced during the day, but in the night the patient had violent fever, and severe dyspnœa, threatening suffocation. A small bleeding afforded considerable relief, which continued during the whole of the next day. The day after, breathing difficult. Pulse very frequent and very hard. Tumultuous sound about the heart. Percussion emitted a dull sound. A large bleeding, twelve leeches and a blister were directed. Notable abatement of all the symptoms. Fifteen leeches were now applied, which afforded additional relief. The patient died, however, suddenly on the sixth day, dating from the period when the disease was translated to the heart.

The inspection of the dead body exhibited the brain and its meninges in a sound state. Each lateral ventricle contained two or

three teaspoonfuls of limpid serum. The lungs were pale and healthy. The cavity of the pericardium contained a pint of turbid serum. The serous membrane investing the heart and lining the pericardium was completely covered with a false membrane, resembling the tripe or second stomach of the ox. Along the furrow dividing the ventricles, and at the apex of the heart, there was a membranous exudation, and also two or three small white bands, soft and easily broken. The texture of the heart was pale, and the cavities contained coagula of blood partly deprived of the red portion. The spleen was remarkably soft; the other viscera of the abdomen sound. No trace of inflammation in the joints.

These two cases may be considered as exquisite forms of acute pericarditis resulting from a rheumatic affection. The points of divergence will be easily perceived. The relative condition of the pulse constitutes a notable circumstance of difference for which no satisfactory explanation has been offered. In the negro, the disease was not so immediately fatal, and the dull sound imparted through the stethoscope, and the confused noise perceived on the application of the ear may he referred to the larger quantity of fluid contained in the cavity of the pericardium.

To the succeeding case there was no precursory affection. The patient, aged thirty-one, and a shoemaker by trade, was seized on the 4th November, 1822, with rigors and general uneasiness. The next day he felt an acute pain just below the left pap. On the 7th he came under the notice of Dr Andral, presenting a palid countenance, expressive of great distress, occasional sardonic grin, and quivering of the lips. The pain was not habitually intense, but there were paroxysms of aggravation when it spread over the whole left side of the thorax; a numbness affected the corresponding upper extremity, sometimes succeeded, for a few moments, by a sharp pain occupying the anterior surface of the limb. At those periods the breathing was oppressed, the pulsations of the heart were tumultuous and irregular, the pulse could scarcely be felt, and the limbs became cold. In proportion as the pain subsided, the respiration was more free, the pulsations of the heart recovered their strength regularly, and were heard through the whole anterior part of the chest. The pulse rose, but always remained small. There was occasional cough; but the respiratory sound was clear over every part of the chest. A pint of blood was taken from his arm; thirty leeches were applied to the præcordium, and sinapisms to the knees; a low diet was enjoined. The loss of twelve ounces of

blood were enjoined the next day. On the 10th of November, the sixth day of the disease, the patient appeared much better. In the course of some hours he was attacked with severe dyspnœa. He could not lie down; and he complained of being bound as it were with a bar of iron. The percussion of the chest imparted a dull sound at the region of the heart, and the pulsations of this organ were very obscure. He died that night. On opening the body the pericardium was found to contain a pint of fluid, of the colour of venous blood. The internal surface of this sac was covered with a red membranous concretion. The lungs were considerably engorged. There was also engorgement of the liver. The veins of the intestines were highly injected. Serous infiltration existed beneath the arachnoid membrane covering the brain; the medullary matter appeared sprinkled with red dots.

The foregoing cases, given in an abridged form, show the manner in which clinical investigations should be conducted, exhibit also the group of symptoms generally observed in acute pericarditis, and, in the post mortem examinations, identify the disease and explain some difference of feature appertaining to them severally.

If we mistake not the interest attached to whatever affects the nature, character and treatment of acute pericarditis, we shall be justified in giving some notice of a case in which the cure was happily accomplished.

A stone-cutter, aged thirty, had been indisposed for ten days. He was first seized with pain in his head, succeeded by fever, and for the last four days he had felt a pretty sharp pain just below the ensiform cartilage. He was bled. His head was relieved, but the pain referred to the epigastrium became more severe, and extended as high as the left breast; forty leeches were applied without relief. The next day he complained of excruciating pain about the heart, not affected by pressure nor by full inspiration, and less severe when lying on his back than on either side. The pulsations were now irregular and tumultuous; the pulse very irregular, frequent, yet of ordinary strength. He was again bled twelve ounces, and forty leeches were applied to the præcordium. The succeeding day there was but little pain about the heart, the pulsations were nearly regular; there still, however, was fever, and the breathing was not free. Another bleeding to the extent of twelve ounces, and the application of forty leeches as before, with the additional means of blisters to the inside of the thighs, effected the cure.

2. *Acute pericarditis without pain, but with dyspnœa.* Three

cases are given in illustration of this form of the disease. Of these, one was complicated with phthisis. The cough had existed for twenty-eight months. Five days before his death the patient complained of difficulty in breathing. Pulse very frequent and small. He lost eight ounces of blood. On the third day after making these complaints, the oppression increased, his face became bloated, the eyelids œdematous, the lips livid, the pulse frequent, irregular, and intermittent every fifteen strokes. The pulsations of the heart very frequent and intermittent.

On opening the dead body, there were found tuberculous excavations in the superior lobes of the lungs, miliary tubercles in the other lobes; sero-purulent exudation in the cavity of the pericardium; membranous concretions on its parietes; slight hypertrophy of the left ventricle. The mucous membrane was highly injected, the large intestines red, contracted, but not ulcerated.

The next case is offered as an example of acute pericarditis complicated with asthma. We acknowledge that a careful perusal of the history has made a different impression on our minds. It strikes us as affording a very clear example of simple hydrops pericardii. The subject was a tailor, aged twenty, who had enjoyed good health, except that for some years he had been sensible of a shortness of breathing when running, or when ascending a height. He had lately sat up several nights at his work. For a few days he had been troubled with cough, but without any obvious cause he was suddenly attacked with great dyspnœa. He immediately lost blood. Nevertheless the oppression increased during the two succeeding days. He was again bled. The symptoms noticed were, face bloated and livid; lips purple; lying on the back, half inclined, the neck extended, the head thrown back, inspirations sixty-five in the minute. The respiratory sound distinct and strong every where except at the lower angle of the right scapula, where the ear perceived a mucous rattle dependent on the bronchitis, which he had experienced for some days. Percussion of the chest imparted a distinct sound, except in the region of the heart; here it was dull. No pain had been felt in the chest. The expectoration, such as belongs to catarrh. The heart beat regularly and gently, imparting a vague vibration to the hand. The pulse was regular, hard, jarring, and very frequent. The skin hot and dry. Digestion perfect. He was again bled, but died on the fifth day.

The pericardium contained a pint of limpid serum with albuminous flocculi. The internal surface of the sac perfectly sound.

Slight hypertrophy of the left ventricle. Redness of the bronchiæ. The parenchyma of the lungs loaded. Engorgement of the liver. Injected state of the intestines.

In a person who died of confluent small pox on the tenth day, the pericardium was found to contain a sero-purulent fluid. The larger extremity of the stomach was highly injected. The detail of symptoms as reported do not enable us to establish any connection between the phenomena observed during the progress of the disease and those noticed after death.

3. *Acute pericarditis, without any characteristic symptoms.* Under this head we are presented with a very remarkable and instructive case, the full narrative of which is as follows:

A woman, aged twenty-six, the mother of two children, and having lately aborted, was admitted into la Charité in the early part of 1820, in a state of delirium that precluded all information of the previous symptoms. The delirium was accompanied by profound taciturnity: when interrogated, she turned a fixed gaze, but gave no answer. Her countenance was pale, mouth not closed, lips quivering, tongue moist and white, pulse frequent, small and regular, skin warm. Leeches directed behind the ears. The two following days her head was frequently thrown back, sudden jerking of the body, subsultus tendinum, speech incoherent. Countenance pale, pulse very frequent and intermittent. On the fourth day from her admission she was free from delirium, and complained only of extreme debility. The muscles of the face were almost continually convulsed, occasional tetanic rigidity of the upper extremities. The next day return of delirium. The features distorted. The arms paralytic. Coma. She died in the night.

The brain and spinal marrow were perfectly sound. Here and there slight injection of the alimentary canal. The other viscera of the abdomen healthy. Slight obstruction of the lungs existed on their posterior surface. The substance of the heart and large vessels were free from disease. The pericardium was lined with albuminous concretions, several bands extending to the surface of the heart. The sac itself contained several ounces of greenish flocculent serum.

Two similar cases are recorded by LATHAM, in the discourses delivered before the College of Physicians of London. One was reported to him by Mr STANLEY; the other came immediately under his own notice.*

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* See Journal of Foreign Medicine, Vol. III. p. 425.

From the foregoing exposition, we perceive that acute inflammation of the pericardium is on many occasions clearly indicated by a peculiar train of symptoms, the most prominent of which are pain, anxiety, and violent palpitation in the region of the heart, together with great disturbance in the state of the circulation; the pulse being for the most part frequent, small, and intermittent. No difficulty will be experienced in comprehending the immediate sympathy subsisting between the heart and lungs; when the former is diseased, dyspnœa and cough may be readily expected to mask in some degree the primary affection. The same general and local means are obviously indicated in both instances, and would be adopted by every practitioner. The consequences resulting from any mistake in the diagnosis, are not likely to affect the welfare of the patient or the character of the physician. In the instances where the whole of the complaints have been referred to the head, our confidence in the means of discrimination must be greatly diminished. All pride of opinion must be humbled, and we may justly hesitate in becoming proselytes to the doctrine which would urge the necessity of adopting local means of depletion from the supposed local character of the disease. Where the system sympathizes with any diseased organ, active inflammation will be most effectually controlled by a free and quick abstraction of blood. In inflammations of the eye, where all the appreciable phenomena come immediately within the cognizance of our senses, many intelligent and observant practitioners have resorted to general bloodletting in preference to local bleedings; and if the precise seat of the disease cannot be determined, is there not a sufficient warrant for adhering to that plan of treatment which exerts the most prompt and decisive influence on the state of the circulation, instead of advancing in a kind of military array, successive bodies of leeches, with the design to dislodge the enemy from what has been denominated his strong hold?

If the patient survive an attack of acute pericarditis, which has not terminated in resolution, a variety of morbid appearances will be presented. There will be more or less persistance of many of the symptoms which prevailed during the earlier period of the complaint, and a life of suffering may be continued for months and even years; or as long as the individual abstains from active exertions he may enjoy an immunity from all uneasy feelings, and may fancy himself restored to perfect health. Other parts of the system, in the course of time, will sympathize with the disease going on in the

membrane investing the heart, and in the course of prolonged affections of this organ, dropsical effusions have been frequently noticed. Often these serous collections have attracted the principal attention, and have been considered the sole cause of all the distress experienced by the patient, until death has revealed the altered condition of the pericardium, consisting of an extensive adventitious covering, or of a membranous adhesion, projected from opposite surfaces; these will be generally recognized as the products of inflammation. Occasionally without any premonition referrible to the heart, many of the symptoms which have been indicated as following acute pericarditis have been observed, and the examination after death has exhibited the morbid appearances which belong to the most active inflammation. Viewing the deranged state of the system, together with the morbid phenomena discovered after death, as dependent on inflammation, the distinctive term of chronic pericarditis has been employed by the late medical writers to designate these affections of the heart.

In illustration of this form of pericarditis, Dr Andral has given the history of two cases, the first displaying the insidious manner in which the attacks are often made, the patient never having experienced any pain in the region of the heart. The symptoms noticed were lividity of the countenance, purple colour of the lips, œdema of the lower extremities and ascites. The respiration was short and hurried; there was frequent cough with mucous expectoration. The mucous rattle was distinguished in many parts of the chest; but on percussion an indistinct sound was emitted throughout. The extent and strength of the pulsations of the heart were natural, but here intermissions were observed, as also in the arteries, and the pulse was remarkably small; the appetite was good; the taking of food, however, occasioned considerable dyspnœa; urine scanty and depositing a reddish sediment. After death the two folds of the pericardium were found intimately united by a membranous exudation an inch in thickness, and resembling the coagula found in old aneurisms. The other patient had previously been affected with fever and palpitations of the heart, which were removed by a suitable treatment. Deeming himself cured, he was unwilling to submit to the restrictions which were enjoined. He became dropsical. He could lie in any position. The respiratory sound was clear and strong. The heart beat very quick. The pulse one hundred and forty, regular and strong. In the course of some days the breathing became difficult; the voice faint. Percussion now afforded a dull sound in

the posterior portion of the left side of the thorax, and here the respiratory sound was lost. He sunk gradually, and died. The heart was covered with a false membrane an inch thick. The left pleura was filled with fluid. Adhesions and tubercles existed in the right side.

The next portion of the work treats of diseases affecting the substance of the heart, causing a disproportion between its several cavities, which the author divides into three classes. In the first there is diminished capacity in one or more of the cavities: in the second the capacity is enlarged. Both these conditions may be accompapanied by unusual thickness or thinness of the walls. In the third division there is mere increase in the thickness of the walls without the cavities being altered in their capacity. From these various lesions, independent of the local symptoms produced by the unnatural contractions of the heart, result divers symptoms, which may be referred to modification experienced—1. In the state of the pulmonary circulation, arterial or venous. 2. In that of the general venous circulation. 3. In that of the aortic system. Before entering on these details Dr ANDRAL notices some of the symptoms which announce the first approaches of these organic affections of the heart.

Throughout the succeeding chapters, as connected with this subject, he pursues a course essentially different from that adopted in treating of inflammation of the heart. We are here presented with the general result of his observations. Instead of full clinical histories, cases are occasionally offered in support of particular points of doctrine: of these we shall proceed to give some sketch.

Hypertrophy of the parietes of the heart can be often traced to inflammation, either acute or chronic, of the pericardium, or of the membrane lining the heart and great vessels. The character and progress of the symptoms will necessarily correspond with the particular location and nature of the original affection. The following symptoms may be considered as generally indicating hypertrophy of the heart: pain more or less acute in the region of the heart; violent and tumultuous palpitations; the pulse being variously modified, sometimes small and irregular, at other times hard and vibrating, without much irregularity in the strokes. The respiration difficult; and great anxiety felt when taking active exercise or ascending the stairs. In the more chronic forms these symptoms

may intermit: when the disease has continued for some time, dropsical effusions generally supervene.

Our author gives a summary notice of a case of hypertrophy of the heart with enlargement of the cavities, which followed acute pericarditis resulting from rheumatism. He states, as the result of his observations, that in many instances the symptoms already noticed as indicating hypertrophy of the heart, were found after death, connected with traces of inflammation of the membrane lining its cavities and the great vessels. This inflammation was evinced; 1. By redness of their internal surface. 2. By thickening of the valves. 3. By the facility with which the membrane could be raised. 4. By the softening and dark colour of the muscular structure of the heart itself. He considers such inflammation as frequently laying the foundation of ossification of the valves seated at the openings communicating with the cavities of the heart, and thus leading to hypertrophy of this organ. Several very interesting cases of hypertrophy of the heart are recorded which appear to have resulted from malformation of the great vessels conveying the blood to and from the heart. But for fuller information on this subject we must refer the curious to the work itself.

Dr Andral has given a separate consideration to the organic and functional lesions which result from the deranged condition of the arterial system, as connected with diseases of the heart, and as these have not been often the subject of investigation, we shall extend this analysis by a notice of them, though the observations may not conduce to any immediate practical advantage.

He states that these lesions may exist—1. In the larger arteries, whence result various modifications of the pulse. 2. In the capillary arteries, whence result sanguineous congestions and hemorrhagies.

The pulse presents so many varieties in the diseases of the heart, that it can be deemed only of secondary importance in establishing the diagnosis of these complaints. It may be affected in its rhythm, force and frequency.

The irregularity of the pulse has been ascribed to some obstacle seated at the communication between the aorta and left ventricle. But according to the observations of Andral, this doctrine is not always confirmed by experience; as he frequently found hypertrophy of the cavities of the heart without any such obstacle being

present. He informs us that where the irregularity is not occasioned by any obstacle to the free passage of the blood into the aorta, it is seldom observed, excepting during the period of some marked exacerbation of the disease of the heart, when from some obvious cause the dyspnœa is considerable, and the hydropic effusion is produced or increased. That when such obstacle exists, the pulse frequently becomes irregular before there is any other manifest symptom indicating disease of the heart. He says that this is remarkably the case in elderly persons.

In addition to the irregularity of the pulse observed at any one period of examination, he has noticed in some instances a remarkable difference in the number of pulsations in a given portion of time in the same day, or in successive days. This variation of the pulse will affect our views respecting the operation of digitalis, a remedy so often prescribed in affections of the heart. According to Andral, digitalis is adapted to cases where the strength is not greatly impaired; here the reduction of the pulse will be accompanied by an abatement of the dyspnœa and of all the other symptoms. We are cautioned against administering this remedy in such doses as irritate the stomach or excite vomiting, for under these circumstances an acceleration of pulse has been frequently observed.

In hypertrophy of the heart, the pulse is subject likewise to various alterations in volume and force. A small and feeble pulse seems to accompany obstructions in the orifice of the aorta, and has been observed in cases of hypertrophy with diminished capacity of the left ventricle. A full and bounding pulse is more frequently found when this cavity is enlarged, the aortic opening being free. These conditions of the pulse may, in the same individual, be constant or variable.

The notice which Dr A. has given of the sanguineous congestion in the capillaries, and the consequent hemorrhages, is extremely short, and serves merely to establish the occasional existence of severe affections of the head, and of apoplectic symptoms, as connected with hypertrophy of the left ventricle.

The organic and functional lesions which result from the deranged condition of the venous system, as connected with diseases of the heart, are next presented. In the larger veins an unusual reflux of blood is observed at every systole of the heart, constituting the well known phenomenon of venous pulsation. But having nothing to add on this subject beyond what has been already published, Dr

ANDRAL proceeds to inquire into the effects of congestions in the capillary veins. These congestions may affect the membranes, or they may affect the parenchymatous substance. Hence the remarkable lividity of the countenance observed in the advanced stages of organic lesions of the heart. The discoloration, as seen in the lips, affords often the first indication of the diseased condition of the heart, particularly when complicated with asthma and other pneumonic affections.

From the enfeebled state of the circulation in the cutaneous veins he explains the low degrees of inflammation and gangrene, first noticed by CORVISART, connected with organic affections of the heart. The phenomena of two cases which he has given in illustration, accompanied by extensive anasarca, do not differ from what has been frequently observed in this species of dropsy.

The effects of venous congestion in the mucous membranes are more numerous and more strongly marked. According to Dr ANDRAL, from the mechanical stasis of the blood, not only redness may be observed in these tissues after death, but the accumulation of blood may lead to inflammation and alteration of structure. We must however bear in mind that mere redness does not afford adequate evidence, without some other phenomena which appertain to this process, that inflammation has been actually established. And ANDRAL states, that on opening the dead bodies, he has often found these sanguineous congestions simulating the various shades of colour which usually denote inflammation.

It would be giving too great an extension to this article were we to follow the author through his long and elaborate disquisition on the various sympathetic affections resulting from hypertrophy of the heart, and on the reflected influence these affections exert over the primary disease. We will however direct the attention of our readers to the fact mentioned by him, that dropsical effusions are most frequently found connected with obstructions and hypertrophy of the right side of the heart. In our next we shall take up the review of other portions of the work.

ARTICLE III.—*A Manual of General Anatomy, containing a concise description of the Elementary Tissues of the Human Body. From the French of* A. J. BAYLE *and* H. HOLLARD. *By* S. D. GROSS, M. D. *Philadelphia. Grigg*, 1828. *Pp.* 272.

We have often experienced both surprise and regret that there had never been published in the United States any compendious view of the celebrated system of BICHAT, decorated by him, and by common consent, with the appellation of General Anatomy. The original work, in three volumes, is too bulky for ordinary readers, especially when we add the supplement by BECLARD. Requiring, as it does, a close and attentive perusal, it would meet with but few possessed of sufficient leisure to follow it through all its details; while, at the same time, some general notice of the contents seems absolutely necessary to a correct understanding of what the consent of many nations is now rapidly deciding to consider as modern medicine. We had, some time since, prepared an analytical review of this great work, with considerable labour; but we subsequently decided that, between the size of our article, the length of time which had elapsed since the publication of the text, its partial familiarity, and the abstract, though not less *practical*, nature of the matters of which it treated, the sheets of our periodical would hardly bear so ponderous an addition. It is therefore with much pleasure that we welcomed the appearance of the present volume, and of the Conversations by Dr HENDERSON.

Dr GROSS has furnished us with so many neat manuals, that we cannot but regret the interruption of his useful labours. These little works are, we apprehend, peculiarly well suited to the present wants of the American market, or at least of the American profession. So large a mass of our physicians are engaged in active exertions to obtain a livelihood, that, after a short course of preliminary studies, they have but little time for the perusal of bulky treatises; to which must be added, the state of the profession is such that many of them are restricted in their ability to purchase. From the very nature of manuals, and from the circumstance of their generally coming from the hands of authors by profession, and rarely of the original observers of facts, they are of course incapable of forming high authorities; but they answer admirably well for the purpose of conveying those general and clear ideas, so necessary for the man

of information and the practitioner. The human mind is capable of retaining but a certain extent of information, on a scientific subject, sufficiently impromptu for hourly and habitual uses, at least unless by long and often reiterated efforts. To expend, therefore, a great amount of time in gaining an elaborate acquaintance with details which are to be forgotten immediately after, or at least rendered so vague and uncertain as not to be depended on—to consume our weeks in this manner, is a sacrifice which can seldom be expected of the physician engaged in active and laborious practice. To snatch an hour occasionally, or to employ the leisure of a limited season of the year in study, is perhaps the utmost that he can achieve; and in order to be frugal of his time, it is necessary that he should be frugal of the tasks he undertakes.

For this purpose the manuals, of which a considerable number have been lately produced in the French metropolis, are very conveniently adapted. They might be thought to be designed for students alone, but they appear to us to be rather more fitted for the use of busy practitioners, who, from restricted libraries, unacquaintance with the French language, or other causes, stand in need of parts of the information they convey. We by no means wish to give the idea that they are unsuited to students also; but to point out that this is not their only or their most extended sphere of usefulness. How far they have proved profitable to their publishers we know not; but if they are not so, it is not because the wants of the profession do not call for them.

The present translation, so far as we have examined it, appears to us to be, in the main, a good one. Dr Gross has not only made himself master of the language of his author, but, a thing in which many fail, has a considerable command over the idioms of his own. We do not often meet, in the pages before us, with those various and occasionally ludicrous expressions, which betray on the one hand an ignorance of the French phrase attempted to be translated, in an awkward effort to render literally what was meant to be used in a conventional sense; or which, on the other, though the meaning of the author appears to be comprehended, exhibit an incapacity to convey it in the proper and corresponding English terms. He neither gives us "*little daughter*" for "*petite fille*," as we have somewhere seen, nor "râle" for the perfectly synonymous and appropriate English word "rattle."

In a short and generally appropriate introduction, Dr G. adverts

to the great need of a more extended acquaintance with general anatomy among our physicians; in which we freely unite with him. We cannot, however, say the same of the concluding sentence; in which he seems to anticipate unjust prepossessions against himself as a writer. In phrases rather obscurely worded, he intimates the existence of persons devoid of liberality and candour, whose good opinion he consequently sets at defiance. From our personal knowledge of Dr Gross, we are surprised at this; as we had really formed the opinion that he had been extremely well received among the physicians of this city; but whether the fact be so or otherwise, we apprehend that this is an injudicious mode of treating the subject. The hardships and disappointments of a medical life are undoubtedly great, particularly in the midst of such a crushing competition as now exists in this city; but we presume they are not alleviated, but rather aggravated, by the supposition, true or erroneous, that they arise from the prejudices and opposition of our fellows. Cultivating good opinions of our kind is a means not only of producing a reciprocal feeling in others, but of increasing positive happiness, both in prosperity and adversity. We believe Dr G. to be an upright and worthy man; and we regret his falling into the feeling to which we have alluded; a feeling which has probably been, at least in part, the cause of some of the public differences which have, at various times, brought discredit on the medical profession.

Having thus seized the present occasion for inculcating a lesson, certainly not new, but only too frequently applicable, we now proceed with our scientific matter. So many have thought the fresh classification of the tissues food for genius as to make it no matter of surprise that our authors have fallen into the same track, although perhaps this is not quite desirable in a volume aspiring to the character of a manual. We think the arrangement of twenty-one or ten tissues a simple task——but we give that of MM. Bayle and Hollard. They adopt ten leading systems, in this respect following Meckel; but they place them in a different order. Thus, beginning with the cellular and vascular, they proceed to four others, which appear to be compounded mainly of these two, without the addition of nerves. These are the serous, fibrous, cartilaginous, and osseous. The nervous system then forms the head of a second series, containing branches of the former intermixed with the other constituent elements. These are the tegumentary, glandular, and muscular. The vascular system, besides arteries and veins, con-

tains the capillaries and lymphatics. The exhalents of BICHAT are discarded, as not proved to exist in the form of vessels. The fibrous includes the fibro-cartilaginous system: and the tegumentary, the epidermis, hairy, mucous membranes and *teeth*. We have then an appendix, describing the preternatural, or as they are so often styled, we believe without authority from Dr JOHNSON, the "accidental" tissues.

It would be absurd for us to endeavour to give an outline of general anatomy within the pages of a short review. Our object is to recommend the volume before us, not to offer any substitute; nor do we think this volume itself as full as would be desirable for the instruction of the physician, but merely of a convenient size, and well adapted to the wants and uses of the country, while, at the same time, it certainly possesses high scientific merits. We do not mean, therefore, in what here follows, to undertake an analysis either of the book or of the subject; but merely to notice what strikes our eye in looking the volume over.

To separate the *teeth* from the bones, and place them (p. 225) among the tegumentary organs, seems a stretch of refinement, for which the present state of science is hardly prepared. They resemble the bones in hardness and texture, at least if compared with the central portions of long bones and the petrous section of the os temporis. They also correspond with these last in being nourished by periosteum on the outside, as far as their fangs extend, and by a medullary membrane within; they are subject to caries, and their fangs to frequent changes of form, among which regular exostoses are not unfrequently found; they sympathize in their periosteal inflammations with that of the bones of the face; and they are finally designed for a service analogous to the function or office of bones, to wit, to receive and transfer forcible mechanical motions. The only difference, in fact, which we see them present, is the circumstance of their upper portion being covered with a coating of enamel, instead of periosteum. MM. BAYLE and HOLLARD adopt the idea that the ivory portion of the teeth is inorganic. If inorganic, how can this substance carry on the vital process of ulceration, of which, alas! we have abundant experience? Or how, on the same supposition, can we account for the bony substance of the teeth being sometimes the seat of acutely painful sensation when touched? True! we cannot discover the veins, or lymphatics and nerves, by which these processes are in general carried on; but are we, on that account, entitled to infer that no

such organic means exist? We cannot adopt in science the principle, that when we are at the end of our line, we are at the bottom of the ocean; and on any other grounds, the above inference must be branded as a *non sequitur*.

Hair, according to our authors, is a regular secretion from a pulpy mass or papilla, occupying the bottom of the little follicular cavity in which the hair grows. The cavity is an ovoid vase: the papilla a cone projecting from the bottom of it. The hair, on its base, is spread out into a kind of cap, covering and embracing the cone alluded to; and is further secured by the close adhesion of the epidermis. This latter descends into and lines the follicular cavity, and then is reflected, and itself constitutes the tube of the hair; while a process of the rete mucosum passes into and occupies the hollow of the tube, containing the colouring matter of the hair. Hence the remarkable correspondence between the hues of the latter and the complexion of the skin. The pulpy cone is a part of the cutis vera, and contains arterial cavities, a nervous twig, &c. In short, it would appear to be a real papilla; and in all probability is the seat of that sense of contact which we experience when any thing touches the hair; and which "is so obvious in animals furnished with large and stiff whiskers." No mention is made of the curious faculty which the hairs possess of growing after death; a power which is totally inexplicable, unless we allow their vessels, or those of the bulbous papilla or rete mucosum, a vitality capable of existing independently of the rest of the body. These bulbous or phaneric (distinctly visible) follicles, are distinguished from the sebaceous cavities of the skin.

In treating of the *brain*, our authors speak but little of the labours of GALL, further than merely to state his opinion of the different parts of that organ being independent, as well as the different sections of the nervous apparatus, the whole being variously connected together by communicating branches; and his idea that the cineritious matter of the nervous system is always formed previously to the production of the medullary portion. This is rather a brief dismissal of the man who has certainly contributed more than any other individual to augment our knowledge of these organs.

Of the healing of fractured bones.—The ancients taught that this took place by the effusion of a kind of fluid, which gradually hardened, and glued the injured extremities together. HALLER carried

this opinion more into detail; describing the supposed fluid as becoming first mucous, then cartilaginous, and finally hardening into bone. HUNTER, on the other hand, referred ossification to his favourite agency, the organization of effused blood. Thus far the agency of the periosteum was entirely overlooked. Mr HOWSHIP observed the successive order in which ossification invaded, first the circumference and the newly formed attachments of the torn periosteum; secondly, the surface of the bone, and finally, the medullary cavity. In the last of these, he accords with Mr HUNTER in supposing the effused blood to be the organ of restoration. Some influence seems to have been conceded to the views of DUHAMEL; which are, however, obviously too much governed by a fanciful analogy to the vital actions of vegetable trunks, the physiology of which that author so well understood. According to him, the union of bones takes place only by bony rings deposited by the periosteum from without, and generally by the medullary membrane from within; the intermediate bone not uniting. This is easily confuted by the inspection of morbid specimens. More recently the subject has been revised by MM. DUPUYTREN, BRESCHET and VILLERME; from whose observations is drawn the abstract given in the volume before us. We shall sketch it.

There are, according to these experimentalists, three distinct stages in the formation of callus. In the first stage, the small quantity of blood that escapes into the cavity of the fracture is soon augmented by the exhalation of a viscid serum; and the mixture thus formed gradually loses its colour by the removal of the red globules. Meanwhile, the periosteum and the medullary membrane are reunited, along with the other soft parts adjacent. The second stage is characterized by inflammation and swelling, accompanied by the effusion of coagulating lymph in the thickness of the periosteum, and between this membrane and the bone. In this substance ossific matter is deposited. Mr HOWSHIP's description of the form and arrangement of the little cylinders in which it consists, will be probably in the recollection of many of our readers. The medullary membrane itself is finally ossified, and the process extends to the surrounding cellular texture, and even to the adjacent muscles, forming the bony tumour which we find enveloping fractures during their recovery, and furnishing such serious impediments to the motions of the limb as may well account for the difficulties fre-

quently found in increasing stiffness and loss of muscular power. The "provisional callus" thus formed is a kind of osseous incrustation round the surface of the contiguous extremities, girding the injured parts with a real ring of bone. In the long bones, a "pin" of bony matter is added, which fills the medullary cavity and keeps all secure. When motion is prevented by these means, then commences the third stage of union, the formation of a permanent callus. At this period, the matter effused between the divided extremities assumes a firmer texture, and vessels are seen connected with those of the adjacent bone and periosteum, bony matter is deposited, and the permanent union is then completed. When this consolidation is perfect, the provisional retentive apparatus is gradually absorbed, and the medullary canal is re-established. The above is the process for reunion of fractures which are retained in close apposition. When this is not accurate, parts of the retentive callus, which is otherwise only provisional, become permanent, and the medullary canal sometimes remains closed. The author then proceeds to describe the ligamentary union which takes place when the fractured parts are not retained in contact, as in the patella and the cervix of the os femoris.

In the above description, those who have perused the interesting paper, and inspected the beautiful figures published by Mr Howship in the Medico-Chirurgical Transactions, will find less of novelty than at first sight appears. The air of originality and of independent interrogation of nature preserved in quoting the high authorities from which our abstract is taken, should not prevent us from perceiving that a part of what they state has been previously known. That they have in part adopted the ideas of Howship, whom the writers class with Haller and Duhamel, is acknowledged; but we should hardly have inferred from the paragraph before us that, with the addition of the general principle, that nature is frugal of weight, and always removes superfluous bone, the description of Mr H. is perhaps quite equal to that which we have been analyzing. Haller and Duhamel, though theirs are certainly illustrious names, by no means understood the reunion of fractured bone so well as Mr Howship. Without any prejudice in favour of either country, we would wish equal justice to be done to the scientific men of both of them. We are constrained to grant the general superiority to the French; but the elaborate exhibitions of nature in the papers of

Mr H., as well as of many others in the Medico-Chirurgical Transactions, deserve any other rank better than that of opinions, and are well worthy of a place beside the best productions of the Paris school. MM. Bayle and Hollard proceed to speak of the structure of ununited fractures, of the reunion of separated epiphyses, of wounds of bones, and of the changes which take place in the extremities of bones divided in the amputation of limbs. We are not aware whether they here quote the authorities mentioned above, but we presume such to be the case. They do not again mention ligamentous union, as in the case of fractures of the long bones, not united by osseous tissue; but state that the extremities of the fragments are sometimes rounded, and become firm and compact; and that they are sometimes even incrusted with cartilage, and covered by synovial membrane; thus really forming what we have often heard denied as actually existing, a proper *artificial joint*.

The reunion of separated epiphyses takes place by a process similar to that employed for the cure of fractures. In cases of comminuted fractures, the disorganized parts are reunited in an analogous manner. We well recollect a case in which a portion which was connected with the rest of the body merely by a shred of periosteum, and which had been reverted on the outside of the skin like a button, was completely restored, with the exception of a minute exfoliation. Wounds of the bones, with loss of substance, are generally followed by necrosis, and exfoliation of the external lamina, after which fleshy granulations are thrown out, and the part lost is replaced by a new formation.

After amputation, the extremity of the divided bone inflames, adheres to the surrounding soft parts, assumes a rounded form, and is terminated by a compact osseous plate, which closes up the mouth of the medullary cavity. Our authors do not mention the disposition to expand into a knob or head. If the bone be injured above the part traversed by the saw, slight exfoliations take place.

ARTICLE IV.—*Traité Elementaire de L'Art des Accouchements, ou Principes de Tokologie et d'Embryologie. Par* ALF. A. L. M. VELPEAU. 2 *Vols.* 8*vo. Paris.* 1829.

An Elementary Treatise on the Art of Midwifery, or Principles of Tocology and Embryology. By ALF. A. L. VELPEAU.

The remarkable productiveness of the press, in relation to works on obstetric subjects, is the best proof of the continued increase of obstetric knowledge. If there were nothing to say, nothing would be said about midwifery; men will not publish books without the hope of selling them, and they would not sell if the profession was already satisfied.

We scarcely ever take up a foreign journal, or glance over a bibliographical list, without meeting with some contributions to this branch of medical science; a circumstance in which we rejoice, inasmuch as it offers the happiest augury of its progress and perfection. It is, indeed, a great field, and men have been, perhaps, in a measure compelled to cultivate its waste places, for sheer lack of occupation on other parts of the vast domain of medical science; the harvests of anatomy, physiology, and in some degree pathology, are already reaped and laid up in the garners: much of whatever continues to be collected, is like the gleanings of a grain field; it is not without value; but the contributions are small and few, comparatively to the abundance which has flowed in upon us in the last quarter of a century. The stethoscope, the gastro enteritis, the vivisections, a few gleams of light on the nervous and absorbing systems; these are the chief subjects of toil in the correlative branches, while midwifery stands like a wild prairie, groaning under the weight of its luxuriant productions, and inviting the hand of the labourer.

We mean not to assert that great improvements are to be expected in the conduct of a simple case of natural labour; nature needs no help here from the inventive faculties of man, she has fully adapted her means to her ends; but a parallel case may be made out as to medicine generally. The simple affections of the system, which have been successfully treated in all ages, will continue to be successfully treated, even if our science should stop short at its present stage. It is in the more scientific, the more artful portions that new information is wanted, and that new information is constantly flowing in.

The diseases of women, their accidents, the physiology of obstetrics, the means of supplying and guarding against the deficiencies or errors of nature, the armamentarium of our art, are all subject to great and improving modifications.

Gooch, Ryan, Ashwell, Ramsbotham, Davis, in England; Dewees, in America; Boivin, Duges, Maygrier, Velpeau, Capuron, in France, have each in turn done credit to their own talents and learning, and a service to mankind by their industry. We have selected the work of M. Velpeau out of the whole list, and propose to give some account of it to the readers of this Journal. We have chosen this, because it appears to us to be one of the very best. It is a model for such a work, the several parts being duly connected and related, and managed with a beautiful simplicity and dexterity, like that used by the naturalist; a sort of nomenclatural neatness and conciseness reigns throughout.

M. Velpeau begins with the pelvis, and proceeds to a detail of the natural characters, and deviations of the sexual organs. We shall cite his remarks on the "disposition of the fibres" of the womb. M. Velpeau says that when Vesalius had asserted that the womb was a muscle, Walter, who took the muscles of the skeleton, and even the heart and intestines as the type of muscularity, found no difficulty in refuting him. If, on the one hand, Malpighi, Ruysch, Noorthwyck, Wrisberg, Meckel, Lobstein, and the major part of modern anatomists, are of the same opinion with Vesalius; Boehmer, Blumenbach, &c. have, on the other, alleged plausible reasons for believing that muscular fibres do not enter into its composition, at least in the unimpregnated state of the organ.

Before asserting, continues M. Velpeau, that the womb does or does not contain muscular tissue, it would have been proper to determine what are the real characters of that tissue, to show that the red colour is not one of its essential qualities, but that it alone enjoys the property of contractility, and contains the material denominated fibrine.

Secondly, it should have been considered indispensably necessary to acknowledge a truth too much overlooked in our days, to wit: that before reaching its complete state of organization, the fleshy fibre must pass through different degrees of development more or less perfect; that in some organs it remains rudimental, and becomes recognizable only by accident. Thus the trachea and bronchia, and the arteries of large animals, as of the elephant, manifestly present muscular fibres, while the same organs in the human species very

rarely exhibit them with distinctness. The gall-bladder and vesiculæ seminales, &c. are without them, as believed by the greater number of anatomists; but if examined when considerably hypertrophied, or after being a long time distended, we shall be compelled to admit for them a muscular layer, as taught of old, and as has been seen by M. VELPEAU himself.

Before the age of puberty, the womb is but a rudimental muscle, but at the end of gestation its muscular nature cannot be called in question.

It is fully proved that the cellulo-fibrous, elastic and yellowish tissue, which constitutes the basis of the inter-laminar ligaments, and the inter-spinous ligaments of the vertebræ, also constitutes the basis (*trame*) of a great many other organs. It is no where more abundant than in the womb. It hence appears that this element holds a middle rank, serving in some measure as a passage between the cellular and muscular systems; the chemists have found fibrine in it, and M. VELPEAU has seen it in dead bodies, at various points, transformed into a true contractile tissue. He scarcely hesitates to assert that wherever it is met with it may accidentally develope muscular fibres, and that in some zoological species these fibres co-exist naturally with it.

It is therefore during pregnancy that we ought to study the uterine structure, for the purpose of discovering its muscular fibres. Then only is it red, contractile, formed of tomentose fibres; then only that it contains a great proportion of fibrine; that it presents, in one word, all the characters of the best developed muscular tissue.

M. VELPEAU next notices, in a rapid manner, the opinions of the most celebrated writers concerning the disposition of the muscular fibres of the womb; we cannot follow him in this sketch, which, though brief, is very excellently presented. He sums up the subject as follows:—1. Below the peritoneum exists the first layer; it is thin, close, elastic, cellulo-fibrous, and sometimes, but not always, muscular; its fibres have no fixed direction. 2. A thicker layer of transverse fibres which, united in different places, and imbricated like the constrictor muscles of the pharynx, are all directed outwards, and converge towards the four principle points indicated by Mde. BOIVIN. 3. More deeply seated are found other transverse fibres, but the longitudinal and oblique predominate, especially at the cervix, where they compose the basis of the rugæ which are remarked on its inner surface. 4. And lastly, above, we see the pre-

tended *detrusor placentæ* of RUYSCH, which seems to be only an extension of the circular fibres of the fallopian tubes.

The basis of all these layers is the yellow cellulo-fibrous tissue, surcharged with fibrine; the fleshy structure developes itself in this primitive (*trame*) woof, as in the intestines; but as the womb seems to be formed by the union of two cylindroid canals, (the tubes), and as it has need for a very great degree of power, it is not surprising that its fibres, which are very numerous, should affect the most complicated and various directions.

Having in our review of FRANCIS's Denman (See the last number of this Journal) noticed M. VELPEAU's views in relation to the decidua, which differ toto cælo from those of BURNS, HUNTER, and others, we shall omit any further remarks concerning them in this place, being satisfied with referring the reader to that article.

Finding a pretty clear account of the vesicula umbilicalis, we shall present M. VELPEAU's views in relation to that organ. The author appears to have been much dissatisfied with the sentiments of preceding writers concerning it. He assures us very positively that the human ovum always contains an umbilical vesicle until the eighth week of its evolution. Upon a total number of about one hundred and thirty cases, examined before the end of the third month, he only met with thirty examples of the umbilical vesicle in a natural condition. He describes it as a small pyriform, round, or spheroidal sac, which, about the fifteenth or twentieth day after fœcundation, is as large as a pea, being from two to four lines in diameter; it probably acquires its greatest dimensions in the course of the third or fourth week. He always found it smaller if beyond the first month; he had only one opportunity of examining it before the end of the first fortnight, and it was then smaller. When reduced to the size of a coriander seed, which generally happens in the fifth to the seventh week, it ceases to diminish; it becomes flattened and disappears by insensible degrees. Sometimes it cannot be detected beyond the third month, but it may on other occasions be met with as late as four, five and six months.

It is situated, according to our author, between the chorion and amnios. Until the thirtieth or fortieth day it is enclosed in the corpus reticulatum or vitriform layer (between the chorion and amnios); after that period it adheres and applies itself to the outer face of the amnios, or to the inner surface of the chorion.

It is attached to the embryo by a pedicle, which at the end of the

first month he never found less than two, nor more than six lines in length; it is then about a quarter of a line in thickness, and gradually expands and is confounded with the vesicle. He has not the least doubt of its being continuous with the intestinal tube. For twenty or thirty days, M. VELPEAU affirms this stem to be hollow, because in two specimens he was enabled to squeeze the contained fluid from the vesicle into the intestine, without occasioning any rupture of parts. The canal is generally obliterated about the fifth week.

The umbilical vesicle is strong, difficult to tear, and contains a yellowish substance, which M. VELPEAU doubts not to consist of a sort of vitellus or yelk analagous to that of the incubated egg, the uses of which are to furnish a nutritive material to the first lineaments of the embryo, and to supply materials for its development, until its organic functions become sufficiently established, and its relations with the mother sufficiently confirmed to enable it to continue its subsequent progress without the aid of this pro re nata organ.

In regard to the formation of the placenta, M. VELPEAU entirely disagrees with the HUNTERS, BURNS, and others, who would make the placenta consist of two portions, one constituted of the membrana caduca or decidua, called the maternal portion; and the other constituted out of the chorion, called the fœtal portion. In examining the placentulæ of cows and sheep, amounting in the former named animal to upwards of one hundred separate cakes, attached to all parts of the uterus and its cornua, it is manifest that the placentæ consist of two equal parts, one maternal and one fœtal; that is, the cotyledon which rises from the surface of the cow's uterus, is as thick as the placentula attached to it. By taking hold of the chorion with one hand and the uterus with another, and drawing them apart, the placentula separates from the cotyledon. They appear to have been attached to each other by the insertion of fibrillæ or papillæ, very similar to those on the animal's tongue, into each other alternately. Some writers affirm that no blood follows the separation; others, contrarywise, tell us that blood does follow upon their separation. We cannot decide this point at present. Suffice it for our present purposes to say, that this double placenta has probably furnished the original analogy, upon which authors have rested the inference that the human placenta consists of two portions. Our readers will at once see that this inference is not just; for in the cow, only the placentulæ separate after the birth of the young, leaving the cotyledons

as a part of the womb; they are not deciduous, not caducous; but in women the whole placenta is deciduous; there is no separation between the maternal and fœtal portions; both come away together. Now if we, in the manner common in this country, should regard the placenta as covered on its uterine face with a layer of decidua, it would be difficult to deny that that substance might furnish a portion of the placental mass. M. VELPEAU, however, totally denies that the decidua intervenes between the womb and placenta, asserting that it stops at the circumference, and then is reflected over the whole ovum, so as to constitute decidua reflexa. M. VELPEAU has in several instances pulled the *whole* ovum out of the *reflected* coat, leaving *it* entire.

On this view of the placenta it will be seen, that that organ consists of parts constituted out of the membrana chorion, which on one portion of its superficies becomes attached to the bare surface of the womb, by an attachment so slender and weak, that the contractions of the latter are capable of disengaging it entire, and of expelling it from the vagina with its maternal surface uniformly covered by a moderate coating of cellular tissue, in which (probably) a capillary circulation exists, connecting it with the fœtal organs. M. VELPEAU denies to it all pretensions to vascularity.

"This membranule," says M. VELPEAU, (p. 281) "which covers the fungous face of the placenta, admitted by ARANTIUS, LITTRE, HUNTER, LOBSTEIN, CHAUSSIER, MECKEL, and by almost all the modern anatomists, and rejected by RUYSCH, MERY, ROUHAULT, &c. seems to have been generally misunderstood. Some, contrary to the sentiment of WRISBERG, asserted that it is only a very thin portion of the caducous membrane. It is traversed, according to the majority of observers, by many vessels: many authors think that it passes from one lobe of the placenta to another without dipping down into the intervals between them; a still greater number, however, pretend that it passes down between the cotyledons, between each bundle and each vascular filament, to which it furnishes a sort of sheath, &c."

M. VELPEAU says, that until about the twelfth week after conception, this membrane does not exist, but the spongioles of the chorion are still evident upon inspection; after this time, when they are agglomerated, this membrane gradually forms, in order to cover their summits, and extends until it unites with the decidua, at its reflected edge, on the circumference of the placenta. This mem-

brane certainly, says M. VELPEAU, contains no vessels; it resembles in its distribution the arachnoid; in nature it is similar to those pellicles which, immediately after their formation, invest almost all the fibrinous concretions; it is not a tissue; when placed in water, it dissolves in a few days as easily as all the other membraniform concretions.

There is, therefore, no vascular union of mother and child; all the floodings that take place are analogous to the metrorrhagic discharges of women not pregnant; even the terrible cases of placenta prævia, in which the woman so often loses her life in delivery, furnish, according to M. VELPEAU, no proof of the disruption of blood vessels. He explains them as he does the hemorrhages from the nose, lungs, stomach, &c.

We cannot bring ourselves to agree with M. VELPEAU in these views. The experiments of CHAUSSIER and RIBES; the cases of COWPER, NOORTWYCK, MERY, and many others, afford convincing evidence that it is possible for fluids, whether blood and serum, or mercury, &c. to pass from the vascular system of the child into that of the mother and vice versa.

The discharges of blood which accompany the separation of the placenta when attached to the cervix, are too common and too fatal to permit us to believe that no vascular branches are broken off to allow of its escape.

We are free to say, however, that we do not admit of the existence of such large vessels as we read of in some of the standard authors. The hemorrhage is truly a traumatic discharge; but it is from capillary vessels, except in some instances, wherein it depends on the rupture of uterine sinuses, agreeably to the sentiment of VIEUSSENS.

We shall pass by any further consideration of this topic however, satisfied for the present with the following, from p. 292, where, after alluding to the various hypotheses, he remarks,

"What I have already said above, concerning the structure of the external face of the placenta, proves, in my opinion, that none of these hypotheses are rigorously true. I repeat, with Mde BOIVIN, that in a majority of women who died pregnant, the membrane that covers and unites the lobes of the placenta appeared to me to be the sole bond that connected that body and the womb. I have observed, moreover, that the adherence of the ovum is the same throughout; that it may be destroyed with the handle of a scalpel without the least difficulty, without breaking any thing except mucous *tractus*,

like those that exist between the chorion and amnion, between the *croup membrane* and the membrane that yielded it.

"The error of authors on this subject evidently arises from their having few occasions of examining the ovum while in the uterus, and especially on this, that in most women who die within a few days after delivery, the inner surface of the womb remains swelled, and as it were fungous, at the part which corresponded with the attachment of the placenta."

M. VELPEAU has concentrated so much learning and research in his pages, that it would be vain to attempt to follow him throughout in an analytical review: his book defies compression within such limits. We shall pass on therefore towards the end of his first volume, where he speaks of the duration of pregnancy. After showing that the period of gestation is not exactly fixed in our domestic animals, as is well known to the farmer, he remarks,

Thus, far from being fixed, the term of gestation in brutes is, on the contrary, extremely variable; and as the habits and constitution of woman render her infinitely more *impressionable* than any animal of the inferior species, it is evident she must be subject to the same irregularity.

The following proof, admitting of no reply, noticed in the human species, is related by M. DESORMEAUX:

A lady, the mother of three children, falling into *amentia*, had vainly exhausted all the resources of hygiene and therapeutics; a physician thought that a new pregnancy might restore her intellectual faculties. The husband consented to note in a register the day of each sexual union, which took place only once every three months, in order to avoid the hazard of disturbing an imperfect conception. This lady, watched by her servants, and imbued with very severe religious and moral principles, was delivered in nine months and a half.

He next speaks of the celebrated Gardner Peerage case, tried lately before the House of Lords in London. Of twenty-five physicians who gave in their testimony, seventeen asserted that pregnancy terminates between the two hundred and seventieth and the two hundred and eightieth day; but some thought it not impossible that Elizabeth Adderly, the wife of Lord Hyde Gardner, might have been delivered on the three hundred and eleventh day. Mr BLUNDELL cited a case terminating on the two hundred and eighty-seventh day, and Dr MERRIMAN had seen several ending on the two hundred and eighty-fifth and two hundred and eighty-seventh

day; two or three which went to the two hundred and ninety-sixth day; one of three hundred and three and one of three hundred and nine. Dr DEWEES cites an example of pregnancy which went to the three hundred and eighty-third day. To these facts, says Mr VELPEAU, I may add one that fell under my own notice. It was the case of a woman who carried the fruit of her womb until the three hundred and tenth day.

"We may hence conclude that retarded births are not to be regarded as impossible, but that in the present state of our knowledge it is impossible to assign to them their exact limits. Moreover, since, in order to prevent arbitrary decisions of such questions, the French code has pronounced that after the three hundredth day the legitimacy of births may be contested, this physiological point has lost much of its importance; for at present the great point is for a physician to know whether a child may or may not remain longer than nine months in its mother's womb."

We feel ourselves obliged, and it is with regret, to omit any notice of his beautiful sections on the divisions of labour, its causes and phenomena; this we do because it is impossible to exhibit concisely in this article what he has concisely and yet fully stated in many pages. We must refer our readers to the work itself.

The second article, "Eutocia," begins as follows:

"In order to the performance of labour, without extrinsic aid, a considerable number of conditions are required.

"On the part of the woman, the pelvis must not be vitiated nor ill formed: there must be no serious affection of the womb, no scirrhus, nor ancient cicatrices; this organ must enjoy a certain degree of energy; the general strength of the patient must not have been exhausted by a profuse hemorrhage, nor by a protracted disease; no affection must exist making it hazardous for the woman to deliver herself up to the efforts that are necessary; and there must occur no accident during the progress of the labour.

"On the part of the fœtus, the occipito-coccygeal axis must present one of its extremities to the straits; that is to say, the fœtus must descend by the head, the feet, the knees or the breech; it must not be hydrocephalic, gibbous, ascitic, or of a volume disproportioned to the capacity of the pelvis; it must not have two heads attached to one trunk, nor two trunks united to a single head, nor two children united to each other in any manner whatsoever. However numerous these conditions," remarks M. VELPEAU, "it is very rarely that they are not met with, for spontaneous delivery forms a large proportion of the total sum of labours. It is seen in a synoptical table by S. MERRIMAN, that of 1800 labours, 1746 might have terminated spontaneously, since the fœtus presented 1654 times by

the vertex, 4 by the inferior extremities, 23 by the face, 42 by the breech; and that in 23 cases, the labour was considered dystocic, only, because there was a plurality of children. From 1797 to the end of 1811, there occurred in the Maternité of Paris, 20,357 labours, of which 20,183 were natural. Of 1897 that took place under the observation of Dr BLAND, nature terminated 1860. It is seen then, that in the Maison d'Accouchemens of Paris, the difficult labours were as 1 to 62; but at the Westminster Dispensary and the Middlesex Hospital there were, according to MERRIMAN and BLAND, 42 spontaneous deliveries out of 43 labours."

"In some new tables, Mde LACHAPELLE divides the labours of which she had been witness into two epochs:—the first, which extends from the 1st Germinal an. IX. to the 31st Dec. 1811, comprises 15,662, of which 15,380 were spontaneous, and 272 difficult; the second, which extends from January 1, 1812, to Dec. 31, 1820, comprises 22,243, of which 21,974 terminated without assistance, 269 by artificial aid. According to BÖER, there were 958 from Sept. 1787, until the same period in the year 1790; these were in the obstetrical school at Vienna; and of this number, 17 required turning, the forceps, or perforation of the cranium. From Sept. 1790 to Sept. 1791, of 950 labours, there were 18 cases of dystocia; from Sept. 1791 to Sept. 1792, of 1015 labours, 8 versions and 7 forceps; from the 1st of Jan. 1801, to Dec. 31, 1802, out of 2234 labours, 13 were effected by turning, 8 by the forceps, and 2 by perforation of the head; from Jan. 1, 1803, to Dec. 31, 1805, out of 2399 labours, 5 versions, 11 applications of the forceps, 3 perforations; in 1806, out of 2030 labours, 7 versions, 2 forceps, and 1 perforation. At Heidelberg, out of 1296 labours noticed by M. NAEGELE, 1230 were natural, and 64 not natural; which gives a proportion of 1 to 20; whilst, in the calculation of BÖER, upon a total of 9590, 200 only required version, the employment of the forceps, or a perforation of the cranium; which gives nearly 1 case of dystocia to 95, and upwards. But these proportions are to be accepted only as the proportions of the authors who have published them, and not as the general ratio *out* of the public establishments. There always exists a sufficiently large discrepancy between the results obtained at London and those of the Maternité at Paris; and between those mentioned by BÖER and those of the clinic of Pavia; since, according to M. LOVATI, out of 67 labours, 22 required assistance. Private practice, however, gives proportions still more various; for in great cities, as well as in the country, the interference of art is made use of in one case in six, by some persons; while others employ it only once in ten, twenty, thirty, or only once in sixty, eighty, or one hundred cases."

M. V. asks, whether, admitting that Professor BÖER's results are the ultimatum, the limits of success, beyond which nature cannot

pass, we are to count upon similar advantages. He thinks we ought not to confound the possible with the useful. If BÖER found only 1 case in 132 to require the intervention of art, it is no proof that art might not have been beneficially employed in some of the remaining 131 cases. Is it not certain, says he, that although nature may bring a labour to its close without our aid, we might not, nevertheless, by a proper procedure, cause it to terminate much more happily both for the mother and her child? As to MERRIMAN and BLAND's cases, where there was 1 dystocia in 45, nothing, says M. V., proves that too great a hurry was not exhibited to employ the means of art; nor that some of these cases, if left to nature, might not have been spontaneously terminated; and besides, all the world knows that "*expectation*" is not the dominant quality of British practitioners. Be this as it may, says M. V., the statements of the London and Vienna hospitals being taken as extremes of the scale, we may admit the results obtained at La Maternité at Paris as a mean term; whence it will appear, that the active co-operation of the accoucheur becomes needful only once in fifty or sixty cases.

M. VELPEAU next asks, why are the results of hospital practice more satisfactory than those of private practice among the general community? The hospitals contain the poor, the weak, the deformed; while the comforts and facilities requisite for carrying women safely to the end of pregnancy, and through the perils of labour, are not wanting to the generality of those delivered out of the hospitals, and at their own homes. In hospitals, however, we find that men of abilities are selected from the common mass of the profession, who do not interfere in labour for the mere pleasure of having something to do. It is fair to suppose that their interference is confined to cases in which it is indispensable, and manifestly useful.

But in general practice, what imprudent, ill-timed, awkward or rash manœuvres! An audacious midwife, or a cunning accoucheur, the one from an incapability of being a moment quiet or unoccupied in a lying-in room, and the other from an atrocious desire to display his skill at the expense of his patient; either of them will cause embarrassments and difficulties that would never have fallen in the way of unobstructed and unbaffled nature. An old practitioner in a hurry to be gone; a timid young physician overcome by the cries of his patient or her friends; sometimes a wretch desirous of making an impression or reputation; all of these lend the resources of art to those cases which nature, without their assistance, would be

competent to close much better. He even cites from DIDEROT that one of the midwives, who took pupils, was known, for the sake of attracting attention and getting up a name, to push back a vertex presentation and bring down the feet, in order to exhibit her adroitness, and in that way secure a larger class of students. After all, the truth is, that the proportion of easy and bad labours to be met with in the practice of different physicians, is subject to great variety. One man may attend several hundred women in child birth without meeting a difficult labour, while another will have frequent occasion to resort to artificial aid, and yet both may be men of equal knowledge and prudence.

We shall now proceed to page 496, where, in treating of presentations of the face, under the head of Eutocia, the author says that until of late days, no one ever entertained an idea of abandoning face presentations to the operations of unassisted nature. MAURICEAU, LA MOTTE, and SMELLIE furnish a few examples of such cases spontaneously delivered; P. PORTAL and DELEURYE also said that such positions are not very dangerous in general; and ROEDERER and PETIT, that some among them may terminate without aid; but BAUDELOCQUE and STEIN having averred that their natural termination is possible only in case of a small child or a large pelvis, it happened that MAYGRIER, GARDIEN, CAPURON, &c. have all continued to arrange them among the preternatural cases.

Such was the state of things, continues our author, when Madame LACHAPELLE laid it down as a principle, that these labours are almost as easy and natural as labour in which the vertex presents; and affirmed that of seventy-two cases of this kind, forty-two had terminated without danger to the mother or child. M. DESORMEAUX has taken sides with Madame LACHAPELLE; the same ideas are found in the works of BÖER; while M. CHEVREUL says that he has seen eighteen cases in which, though the child presented by the face, the labour terminated naturally; all the children were of the ordinary size, and fifteen were born alive, three dead, but had been so apparently before the labour came on.

M. CAPURON has attempted to prove geometrically that this is impossible; but M. VELPEAU remarks very properly that there is no geometry capable of holding good against facts. When numerous cases exist they are manifestly possible. He has seen seven cases himself, in which, without any assistance on his part, the children were born, and born alive.

We deem it not needful to go farther into the investigation of this interesting subject. We have seen three cases of face presentation in which we deemed it proper to employ the forceps twice. The other case was spontaneously terminated; all the children were born alive; we have no doubt that the other two cases might have been delivered by the uterus alone, but there is good reason to believe that one of the children must have lost its life; the face was shockingly disfigured, presenting the appearance of one huge suggillation.

At page 703 we find some observations on "*version by the head.*" This operation, which suggests itself so naturally to the mind, was followed by the ancients, but has fallen into disuse since the time of GUILLEMEAU, and is spoken of by the classical authors on midwifery only for the purpose of condemning it. No body, says the author, has undertaken to do it in France. The objections to it are, that it is difficult of execution; the small hold that can be taken of the head by the hand of the practitioner, and the impossibility of bringing the former to the strait in a contracted womb; and even where the version succeeds we must abandon the head when once we have brought it to the strait, or seize it with the forceps; while on the other hand the fœtus may be easily extracted by the feet, constituting a labour almost as natural as one by the vertex.

Now M. VELPEAU assures us, 1. That it is not very difficult to take hold of the head in the womb, and exert a considerable power if needful. 2. That unless the waters have been long discharged, we may often and without much difficulty bring the occiput to the centre of the strait, how far removed soever it may have been from that point at first. 3. That in general it is not so much a question of seizing the head and forcing it to descend, as of pushing up the presenting part. 4. That far from being simple and desirable, a footling labour is highly dangerous for the child, while a vertex labour, even where the forceps is necessary, is rarely so.

M. FLAMANT is, according to our author, the modern father of this operation, which has been patronised, particularly in the north, by MM. LABBE, ECKARD, WIGAND, SCHNAUBERT, SIEBOLD, D'OUTREPONT, CH. WENSEL, BUSCH, CARUS, RITGEN, SCHWEIGHAEUSER, TOUSSAINT, VALLEE, DEROCHE and UBERSANT, who have all, at more or less length, supported the version by the head, by attempting to promote the adoption of Professor FLAMANT's principles.

M. Velpeau thinks that the cephalic version (*version cephalique*) may be attempted, 1. Whenever in a well formed pelvis there is no other circumstance wrong save the posture of the child. 2. In shoulder cases, and in presentations of the back or front of the thorax, provided the arms have not prolapsed or the uterus is not too much contracted; in short, whenever the feet are farther off from the strait than the vertex. If we fail to bring the head to a proper situation, we have only to pass the hand onwards in search of the feet. He disagrees entirely with MM. Flamant and Schweighaeuser, who think the head ought to be restored even in breech cases. For our own parts, we have never tried this method of reducing a preternatural labour; we are, therefore, from want of experience and observation of the case, wholly unable to add or subtract from the authority of M. Velpeau. There is, however, nothing impossible, nor unlikely to succeed in the operation, limited as it is by the author.

The subject of arm presentations is treated at p. 749, &c. This topic is interesting in itself, interesting as managed by the ingenious author of the work before us, and especially so as having excited, in consequence of a late trial in France, a very general attention throughout Europe.

Arm presentations do not constitute positions; they only complicate other presentations, as, for example, of the shoulder. Until the last century, nothing was thought more terrible than the appearance of an arm at the pelvis, and in our own day the common people think it extremely dangerous. Perhaps this arises from the fact, that previously to the time of Levret it was considered impossible to introduce the hand into the uterus, without first returning the prolapsed arm. It is hardly credible what ridiculous and barbarous measures have been adopted for this purpose; such as putting ice in the fœtus's hand, pinching it, giving him fillips to make him retract it, &c. Forks to push it up, and attempts with the hand to return it to the womb, sometimes succeeded in making it take its proper place; but if not, the arm was pulled until the child came away doubled, or until the arm came off at the shoulder joint. Pare gave directions as to the manner of amputating it, and La Motte directed it to be twisted off.

Happily, at the period in which we live, such a dreadful doctrine is taught by no one. It is not, therefore, without indignation that cases of such operations are heard of.

"I would not even insist on this point," says M. VELPEAU, "if some persons had not had the inconceivable courage to renew this revolting practice in Bretagne, in Normandie, in Champagne, and even in the environs of Montpellier, almost at the same moment, within a short time past; and especially if it had not found some defenders in the capital; if they had not dared to publish, in the years 1826, 1827, 1828, many pamphlets justifying a conduct so much at variance with sound tokological doctrines, and had they not invoked anew the authority of AMBROSE PARE, MAURICEAU, DEVENTER, DE LA MOTTE, PUZOS, MESNARD, LEVRET, &c. as if modern accoucheurs had not refuted, without restriction, all the reasons of their predecessors in favour of the amputation or tearing off of the arm."

M. VELPEAU cannot see on what grounds the arm should ever be removed in labour, and avers that it is impossible such a necessity can ever occur with a living child. Before a child can be delivered, it must pass through the straits, but the arm of the child and the hand of the accoucheur can never equal the size of a fœtal head. The arm of the child, therefore, cannot furnish any insurmountable obstacle in any case. Far from being alarmed, therefore, at the sight of a hand coming down, and from making attempts to push it back, it should be secured by a noose, and when that is fixed, the shoulder should be pushed up out of the way, so as to permit the hand to move onwards in search of the feet; as the feet descend, the pelvis, taking place of the shoulder, causes that to rise and carry the arm along with it into the uterine cavity.

We need not detain our readers with all his remarks on the necessity of pushing up the hand, if it come down at the same time with the head. This can be easily done if the strait be not already entered; and if so, we must leave the case to nature, with such modifications as good sense could not fail to point out, or else apply the forceps as if the hand were not present.

"But what shall I say of Dr DAVIS, who tells us that in certain cases of arm presentation, the delivery must be terminated by embryotomy; of DOUGLAS and SIMS, who profess the same doctrine; and above all, of Dr LEE, who, in order to take care of (menager) the mother, separates the arm from the body, perforates the thorax, fixes a crotchet on the pelvis or lower part of the spine of the child, and, by pulling hard enough, drags away the fœtus; as if this manœuvre were not an hundred times more dangerous, even for the mother, than the most complicated and painful turning! Who can tell to what extent the rashness of some men will go? Has not a

colonial surgeon very recently had the audacity to perform the hypogastric cæsarian operation for the simple reason that turning in an arm presentation seemed to him to be too difficult; and what is still more astonishing, boasted of his conduct as a model to be followed! We can only conceive of such scandalous practices by remembering that in science there are always men vain enough, and dangerous enough, to substitute for the real limits of possibility, the false limits of their own knowledge or capacity.

"While the accoucheur has no certain proofs of the death of the fœtus, it is not allowable for him, under any pretexts whatever, to mutilate it; and if ever the arm could really prevent the intromission of the accoucheur's hand, it would be better to follow the advice of BODIN, and perform the vaginal cæsarian operation than to have recourse to embryotomy," &c. &c.

It may be said that we have taken but a slight view of the contents of M. VELPEAU's work; this is doubtless true. We have touched only a few topics. It is easy to pass under review a whole monograph, however elaborate or long, because there is in such cases a continuity of subjects which admit of no solution. Such a work as this, however, which is in itself a body of midwifery knowledge, is, in fact, made up of a vast number of monographs, as many as there are chapters or sections. We are pleased, nevertheless, with an opportunity to lay before our readers the meagre sketch above, albeit not capable of exhibiting a thousandth part of the fulness and richness of the volumes before us—volumes that are far superior to any others that have issued from the French press since the days of BAUDELOCQUE—pregnant with information, whether relative to the philosophy or mechanics of the obstetric art. We rejoice to learn that the work is now undergoing a translation into English, and that it will shortly issue from the Philadelphia press.

ARTICLE V.—*The Anatomy, Physiology, and Diseases of the Teeth. By* THOMAS BELL, F.R.S. F.L.S. F.G.S.; *Member of the Royal College of Surgeons in London, &c.; Lecturer on the Anatomy and Diseases of the Teeth at Guy's Hospital, and Surgeon Dentist to that Institution.* 8*vo. pp.* 349, *with plates. Philadelphia. Carey and Lea.* 1830.

Our enterprising townsmen, we conceive, have rendered a most acceptable service to the American public by the republication of the above work. For if it be true, as alleged by the author, and we have no reason to doubt the fact, that a practical work on the anatomy and diseases of the teeth, founded upon the present improved state of our knowledge, both in physiological science and in the treatment of disease, is yet a desideratum in the medical literature of Great Britain, the statement, it must be admitted, is even more applicable to our own country.

With us the subject, in any of its bearings, forms no part of medical education. Excepting a few remarks on the anatomical structure and relations of the teeth, incidentally dropped in the lectures which are delivered on general anatomy, the medical student is left, at the end of his pupilage, wholly ignorant of every thing that concerns these most important parts.

Whether from climate, mode of living, or from whatever other cause it may proceed, it is at least certain, that the natives of this country, especially those of the middle states, lose their teeth at an age much earlier than is the case with the inhabitants of most parts of Europe. In fact with us good teeth at mature age are so rare a possession, that we seem incapable of estimating their value.

The perusal of Mr BELL's book has left us little reason to doubt that much of this is chargeable to the general ignorance which pervades the community, and especially the medical profession, on the several subjects of his book; and we indulge the hope that its general circulation will tend greatly to correct the evil of immediately resorting to the most severe operations, and other not less fatal or injudicious means, in many cases which are perfectly manageable by more simple and scientific remedies.

Our vanity will not lead us to sit in judgment upon the excellent work of the experienced author, even did not the want of time and space forbid such a course: it is not, therefore, for the purpose of

acting the critic, or endeavouring to appear "wise above what is written," that we now call the attention of our readers to this volume; but to present to them a view of the more prominent points discussed in it, with occasional extracts from the text, illustrative of the author's views, and his manner of expressing them. It will, perhaps, be said that the pages of a journal exclusively devoted to medical science, are not the proper place for such a subject; that here, as well as in Europe, we have a class to whom the consideration of these matters properly belongs, and not to physicians and surgeons in common with them. Neither of these propositions we apprehend is true. It is certain that we have dentists, and some who are eminent in their profession; but it is equally true, that the sphere of action of these gentlemen is necessarily confined to large cities, and that consequently, a very small portion of our widely extended population can avail themselves of their advice and skill; of course the greater number must resort, as a matter of necessity, to their physicians, or to some other less qualified persons.

Let it not be supposed, however, that the production of our author is restricted to a few prescriptions for the cure of tooth-ache, or directions for the removal of a carious stump. Far from it. It is, in fact, a work designed much more for the use of physicians than of practising dentists; and embraces, besides a philosophical consideration, broadly conceived and clearly expressed, of the subjects particularly mentioned in the title page, a view of the pathology and treatment of many diseases which have always been considered as legitimately falling within the notice of the medical practitioner, but which in many instances have a close connection with dental affections: we allude particularly to diseases of the antrum maxillare, convulsions and neuralgia. On this account we consider the work of Mr Bell to be eminently adapted to the use of the profession. We are aware how much the general health may be influenced by the irritation of a diseased tooth; while digestion may be rendered imperfect from an inability to masticate food in consequence of a morbid condition of the organs principally appropriated to this important process. These the most fastidious physicians will acknowledge to be subjects deserving of his attention, even though he may affect to despise a branch of surgery that Hunter did not disdain to study and improve.

The work before us is written in a style of remarkable purity and neatness. Divested of unnecessary ornament and technicality, it is

likewise free from all the vulgarisms and commonplace phrases which too often occur in modern productions on medical subjects. The author differs also from many recent writers of elementary works, in not deeming it essential to his undertaking that he should appear wise at the expense of those who have preceded him. By this course he has not perhaps displayed so advantageously the pedantry of learning, as he has evinced the modesty of merit, and the unpretending simplicity which always characterises the true votaries of science. By avoiding also much unprofitable disquisition, he has been the better enabled to construct a useful and interesting work, from a store of rich materials, the result principally of his own observations.

The first part of the volume is occupied with a consideration of the chemical composition and anatomical structure of the teeth, their organization and vitality.

"That the teeth possess vitality, that they are connected by their organization with the general system, having nerves, blood-vessels, and absorbents, and are analogous in this respect to other bones, is a truth," in the opinion of Mr Bell, "so strongly attested by all the phenomena they present, whether in a healthy or diseased state, that it is difficult to imagine upon what grounds it can have been controverted, or even doubted, by any one whose opinions are deduced from observation or experiment. The question is not whether in the internal cavity of a tooth nerves and blood-vessels exist, for this is too obvious to require proof; but whether these essential components of animal organization, do or do not enter into the composition of the substance of the tooth itself."

The existence of blood-vessels in the substance of the teeth is wholly denied by many writers, on the ground that red blood is not found within their structure in a normal condition, nor when labouring under disease; and upon the ground that no one has ever been able to inject them with coloured size. To this, Mr Bell makes the following reply:

"The fact that the teeth are not *generally* tinged with red-blood when in a state of inflammation, may be accounted for by the supposition, that the bone is so very dense a structure, as to prevent, in many cases, the slightest degree of distention of the vessels permeating its substance. I have, however, in many instances, on purposely breaking a tooth immediately after extraction, when the pain and inflammation had been severe, found ***distinct red patches in the very substance of the bone.***

"Although no artificial injection of the teeth has ever been satisfactorily made, it is unfair to deny its possibility; for the colouring

matter of all the injections hitherto employed, is compounded of particles too gross to pass into vessels of such extreme tenuity as those of the teeth must necessarily be; but what art has failed to effect, nature, or rather disease, has done for us; I have in my possession a set of teeth, from the head of a young woman who died of jaundice, every one of which is deeply tinged with a bright yellow colour.

"I have frequently examined the teeth of persons whose death has been occasioned by hanging or drowning, and have invariably found the whole of the osseous part coloured with a dull deep red, which could not possibly have been the case if these structures were devoid of a vascular system. In both instances the enamel remains wholly free from discoloration."

The author does not regard the enamel as a part of the organized structure of the tooth, but as a thin layer of "chystaline" matter, extending "over the body of the tooth, to which part it is distinctly restricted;" and "composed almost exclusively of earthy salts, principally phosphate of lime, containing a trace only of animal matter." Hence it is that "the enamel remains wholly free from discoloration," under circumstances which affect the tooth itself.

From the facts which have been cited, and some others which he has adduced, the author thinks "the vascularity of the teeth has been satisfactorily proved;" and that "it is sufficient to demonstrate the existence, in any structure, of any one of the essential component parts of animal organization, to prove that it is not destitute of the others."

"There are, however, some simple and incontrovertible facts, which prove distinctly the presence of nerves and of absorbents, independent of the argument derived from the existence of blood-vessels. It often happens that in consequence of the use of mercury, or from dyspeptic affections, the gum and the edge of the alveolar process recede from the neck of a tooth, which thus becomes exposed, and if this part be then touched with the point of any hard instrument, pain is immediately produced, which is always increased when the part is inflamed. It is obvious that the *periosteum* is not the seat of this pain; as that membrane is also absorbed to the same extent as the gum and alveolar process are lost, and the bone of the tooth is in all these cases absolutely denuded. In filing the teeth, no pain whatever is produced until the enamel is removed; but the instant the file begins to act upon the bone, the sensation is exceedingly acute. The part still covered with enamel may be touched with impunity, but the slightest pressure on the bone occasions an unpleasant and often painful sensation, the result certainly of the actual presence of nerves in the substance of the tooth itself."

Mr Bell dissents from Hunter and others who have denied the

existence of absorbents in the teeth, and offers the following strong fact in support of his opinion :

" A case which occurred to me some years since, the preparation of which is now in my possession, appears to me satisfactorily to prove the presence of absorbents in the teeth. It was, in fact, an instance of true abscess in the bone of a tooth. Inflammation had existed for a considerable time, and after extraction, on sawing the tooth through for the purpose of ascertaining the state of the internal structure, I found a cavity, formed in the very substance of the tooth, communicating with the natural cavity, and filled with pus. Here then, he remarks, is a case in which suppuration had taken place, as a consequence of severe inflammation, and the pressure of the pus occasioned absorption."

We have been thus particular in quoting the author's facts in support of the vital organization of the teeth, as we consider them to be conclusive on the subject. It is a matter also of very great importance; for, if the views which are developed be correct, no arguments are necessary to prove, that all the expedients usually resorted to for the purpose of destroying the nerve contained within the cavity of the tooth, with the hope of relieving the pain of toothache without the sacrifice of the tooth itself, must necessarily seriously injure the latter without in any degree accomplishing the object desired. And it renders equally manifest the fact, that whatever exposes the bone of the tooth, as filing off the enamel or destroying the gums, must necessarily expose the patient to great pain and suffering, together with the speedy loss of the tooth.

Justice however to the author, and to those who may read these remarks without comparing them with the text, requires that we should state, that although he contends for a similar organization of the teeth with that of other bones, he nevertheless acknowledges that they possess this organization and consequent vitality in an "*inferior degree.*" Hence he accounts for the erroneous opinions so generally entertained on the subject, and explains the fact of their extreme liability to suffer from the multifarious causes of disease by which they are assailed, as well as the peculiarities of the morbid conditions to which they are more particularly obnoxious.

Mr Bell details with great clearness the process by which the teeth are formed, and their manner of connection with the jaw. He has rendered the subject so interesting, that it would afford us much pleasure to lay a full account of this part of the volume before our readers; but the limits to which we are restricted would neces-

sarily confine us to a bare analysis, which, from its extreme brevity, would be scarcely intelligible.

In order, however, that the remarks on another subject, which we shall presently notice, may be rightly understood, it will be proper merely to observe that he considers the teeth to be secreted by the proper or investing membrane of the pulp contained in the alveolar cavities; in the same way that the bony formations in exostosis are secreted by the periosteum; and he adopts the suggestion of Dr Blake, that this membrane is constituted by a process of the periosteum which covers the maxillary bone.

As the tooth grows, the sac which contains it, and the gum above, are gradually removed by absorption, in consequence of the continual pressure which they experience.

"At an early period in the formation of the temporary teeth, the investing sac gives off a small process or bud, containing a portion of the essential rudiments of the permanent teeth; namely, the pulp covered by its proper membrane." So that "the rudiments of the permanent teeth, instead of being original and independent, like those of the temporary, are in fact derived from them, and remain for a considerable time attached to, and intimately connected with them."

It is upon a consideration of this arrangement of parts, and the phenomena which result from it, that he grounds his remarks contained in the interesting chapter on "*the irritation produced by dentition, and the diseases which are produced from it.*"

"A recurrence," says our author, "to the relative condition of the teeth to their including parts, at that period when they are about to pass through the gum, and to the means by which their exit is effected, will readily explain the causes of those numerous and severe affections, both local and constitutional, to which infancy is exposed at this important and critical epoch. The emancipation of the teeth is produced by the gradual absorption of the investing membrane and gum, either as a spontaneous process, or, more probably, as the result of moderate and gradual pressure, produced by the rising tooth. When, therefore, the advance of the tooth proceeds faster than the necessary absorption of the parts which have enclosed it, it is forced against the gum, whilst the investing membrane is compressed between them; and a proportional degree of counter-pressure is also produced upon the pulp, on which the ossification of the tooth is still proceeding. These causes, and more especially the latter, excite a greater or less degree of constitutional derangement: at one time confined to some trifling affections of the skin or of the bowels, at others assuming the most severe and dangerous

forms of disease. If we consider the state of the constitution at this early age, when every part of the system, as well as every structure, is in the highest state of sympathetic excitement, without having yet acquired sufficient vigour and firmness to resist the effects of the slightest disturbance of its functions; when, too, the process of new formation is going on, with a rapidity which makes incessant demands upon the nervous system, keeping it in a perpetual state of almost irritable excitement, requiring the most perfect harmony in all the actions of the body, to prevent the occurrence of serious disturbance, it will not appear surprising that any unnatural and violent interference with a structure so highly, and yet so delicately organized as the rudimentary pulp of the teeth, should produce a corresponding commotion in the whole system. We consequently find, not only constitutions of the most healthy character thus become the subjects of acute forms of disease, but, also, that the latent seeds of scrofula and other malignant constitutional disorders are frequently brought into action by this cause."

The morbid symptoms to which dentition gives rise are sketched with a graphic hand; but the paragraphs which contain them cannot be condensed: we shall consequently be obliged to present a very brief notice of some of the author's opinions on this subject. He rightly regards affections of the brain as one of the common and most fatal results of the irritation from dentition when not promptly relieved. He thinks that where there is an overcharged condition of the vessels of the brain, or actual effusion, that such cases do not always terminate fatally; even, however, where they are for the time relieved, and their acute form subdued, the occurrence of confirmed hydrocephalus is among the most common results of such affections. It appears, indeed, that the irritation of dentition has not been sufficiently attended to as the origin of this disease. Were this view of its cause more generally taken, it is probable, Mr B. conceives, that it might, in many cases, be arrested in its earlier stages; and its dreadful consequences, death, or a state of idiocy far worse than death, be frequently prevented. The truth of these remarks will be readily assented to by many, if not all of those who have had much experience in the management of these cases, particularly in large cities, where many causes operate to produce a condition of the system highly obnoxious to such irritations.

The author's observations on the treatment of the diseases which result from dentition, are equally deserving of attention.

The treatment, he remarks, of all these diseases requires only a reference to their cause to be rational and successful.

"Of the general remedies, the most important are those which are directed to the state of the digestive organs, aided by the warm bath, and others which, by acting upon the skin, and especially upon the lower parts of the body, diminish the determination of blood to the brain and viscera. But, whilst every necessary attention is paid to the symptoms, and the proper remedies are directed to them with promptitude and decision, it is not to be forgotten, that the cause still remains unremoved and untouched. A moment's recurrence to the relation which exists between the teeth and the including parts, will readily point out that it is only by removing the pressure, which has occasioned all the mischief, that any thing beyond the mere temporary palliation of the symptoms can be hoped for. As soon, therefore, as any of the affections now described, or others, which can possibly be supposed to arise from this cause, make their appearance, the gums should be carefully examined, and wherever there is any unusual redness or turgescence, and especially if it occur over the part where the next tooth is expected to appear, the including parts should be freely and effectually divided. It is not sufficient that the incision should pass merely through the gum; the lancet must be carried down to the rising tooth itself, and only stopped when the resistance of its point is felt against the edge of the instrument. The form of the lancet should be broad and somewhat rounded, and its edge extremely sharp. The only precaution necessary in its use, is, so to direct it, in making the incision, that the cord of connection between the temporary and permanent tooth shall be carefully avoided, which is readily insured by directing the edge rather towards the outer part of the gum."

We cannot take leave of this part of our author's work without adding a few remarks in confirmation of his views.

Experience has taught us that a free division of the parts above the rising tooth, performed in the manner he has advised, is of the greatest importance. Merely scratching the gums, or scarifying them, as it is called, increases the mischief by the irritation it excites, without doing the least possible good; and we are sorry to add that this is by no means an uncommon practice. Indeed we know that it is the custom of some to choose a dull lancet for the purpose, to avoid the flow of blood which would follow a clean incision. This course may suit the pocket of the practitioner by saving the cutler's bill, and very well agree with the prejudices of an ignorant and doating mother, whose feelings would be horrified at the sight of blood, but it is inhuman as regards the sufferings of the patient, and wholly ineffectual as to the end proposed.

In those cases where decided cerebral disturbance is produced, a not less absurd practice is very generally pursued.

Arising from the pain and irritation caused by the pressure of the gum and investing membrane upon the crown of the tooth, by which this is thrust back upon the delicate and extremely sensitive pulp, the obvious course is to remove the pressure, and then endeavour to tranquillize the system by all the means which are calculated to control vascular action and allay nervous irritation. But instead of this course, the old ladies first attack the extremities with a profusion of garlic and mustard plasters; the patient rapidly grows worse, and the doctor is called; who, more gallant than judicious, acquiesces in the views of his predecessors in the case; and whereas they had only attacked the outworks, he storms the citadel with hot shot, in the form of senna tea, calomel and jalap, and other drastic articles. Still the little sufferer grows worse—and is it strange! Next comes a blister all over the head, and that it may do the work thoroughly, it is kept on from twelve to twenty-four hours! How long this train might be continued, it is impossible to say, if death, more humane than all the rest, did not interpose as an angel of mercy, and liberate the little innocent alike from doctors and disease.

In real soberness, we can never behold this purging and blistering treatment without the most painful conviction that it will end in convulsions and death. We have at least never seen a case of cerebral disease arising from dentition, where the application of a blister all over the scalp, to the very general neglect of the remedies adapted to the real nature of the case, was not followed, and pretty rapidly too, by the death of the patient.

The second part of Mr Bell's work is occupied with the consideration of the diseases of the teeth, and those affections which immediately result from them.

He objects to the term caries, which is so commonly applied to the affection of the teeth generally known by that name, as conveying wrong notions of its pathology, and proposes to adopt *gangrene*. He maintains that "the proximate cause is inflammation," terminating in mortification, in consequence of "the part which suffers the most severely being unable, from its possessing comparatively but a small degree of vital power, to recover from the effects of inflammation."

"As the vessels and nerves which supply the bone of the teeth are principally derived from the internal membrane, it is natural to conclude, that, in so dense a structure, the organization would be less perfect in those parts which are farthest removed from its source;

and that, in the same proportion, they would be less capable of resisting the progress of mortification; as we find that those parts of the body which are farthest removed from the source of circulation, are more particularly prone to gangrene and other diseases which arise from want of activity in the sanguiferous system. On the other hand, the roots of the teeth, which are not only supplied by vessels from the internal membrane, but are also furnished with a periosteum, may be rationally supposed to be more perfectly organized; and we consequently find them capable of resisting disease much longer than the crown.

"The continued and invariable progress of dental gangrene is only to be accounted for by following up the same reasoning. When a portion of any of the other bones loses its vitality, it acts as an extraneous body, producing irritation in the surrounding parts, and a process of absorption is set up in a line of living bone in contact with it, in order to effect its separation. A similar effort appears to me to be made in a gangrene of the teeth, but with a very different result, in accordance with the difference in the structure of the two seats of the disease. When a portion of tooth is killed by inflammation, it excites, as in the other case, an increased action in the vessels of the surrounding portion of bone; but that very action, which, in such bones as possess greater vital power, becomes remedial by promoting the removal of the cause of irritation, produces in the present case the continued extension of the disease; for the irritation thus excited, instead of effecting the removal of the part by absorption, as in other necrosed bones, at once destroys its vitality, and renders it only an additional portion of dead matter to that which had already existed."

We have deemed it proper to present this full view of the author's reasoning on the subject of gangrene of the teeth, not only in justice to him, but because it is the latest, and as we believe, the most correct theory of the nature and progress of the disease which has appeared. As it is highly probable that there is not an individual among our readers who has not suffered from the ravages of this disease, we shall be readily pardoned the length of our extract, the more especially as the means of prevention are very clearly indicated, viz. the avoidance of all the causes of inflammation in the teeth and gums, and the speedy removal of such a condition, when it does occur, by leeches to the gums and similar remedies. Indeed the whole of the author's remarks on this subject are so interesting, that we hardly know what to quote or where to leave off.

Trusting that all who feel interested in this subject will avail of the opportunity afforded them by the present edition of Mr Bell's treatise, to make themselves acquainted with its con-

tents. We here terminate our notice of the teeth and their diseases, that we may introduce some of the remarks of the intelligent author on other subjects closely connected with the present.

"The mucous membrane lining the antrum maxillare is readily excited by any of the common causes of inflammation in such structures. Continuous as it appears to be, and identical as it certainly is in structure, with the pituitary membrane of the nose, whatever causes of irritation occur in the latter membrane, will often extend themselves to the former. Thus, in common catarrh, a dull heavy pain is occasionally felt in the antrum, which, though generally trifling, is sufficient to indicate, with considerable probability at least, the production of inflammation by continuity of structure. This slight affection, however, is seldom attended with any more severe symptoms than temporary and considerable pain, which always subsides on the disappearance of the catarrh, and which may be readily relieved by the application of leeches to the side of the face. I have never known an instance of abscess arising from this cause alone, though the secretion is occasionally thickened, and its transparency somewhat clouded.

"But when inflammation of this cavity is produced by a tooth—whether from the exposure of its internal membrane, if the tooth be living; or, if dead, by the irritation which it excites as an extraneous body—it often assumes a more severe and important character, both in its present symptoms and its future results. The teeth which are most commonly found to occasion inflammation in the antrum are, as might naturally be inferred from their situation, the first and second molares, and the second bicuspis; though it sometimes happens that the first bicuspis, or even the cuspidatus, and still more rarely the dens sapientiæ, will produce this effect. When, from constitutional irritability, arising from derangement of the digestive organs, general debility or any other cause, irritation is produced in the sockets of any of the teeth now mentioned, the usual symptoms which precede alveolar abscess, and which have already been described, are often followed by the occurrence of deep seated pain in the body of the bone, which, although generally of a dull, heavy, aching character, is frequently interrupted by acute lancinating paroxysms darting across the cheek towards the interior of the nostril, and backwards in the direction of the tubercle of the maxillary bone; this is accompanied with a greater or less degree of general tumefaction of the cheek, and with circumscribed patches of a florid colour upon the skin; and these parts, as well as the integuments and periosteum of the surrounding bone are more or less painful on being pressed.

"The inflammation should be at once reduced by the free application of leeches to the cheek; the state of the stomach and bowels must be carefully attended to, and the tooth or root which produced the irritation should be immediately extracted.

"If this plan be adopted sufficiently early, the symptoms will immediately subside; but if the inflammation should be suffered to remain unattended to for any considerable time, the mucous secretion from the membrane becomes altered in its character, assuming a purulent form. The natural opening into the nose becomes obliterated by the thickening of the membrane, and the parts thus brought into contact will, in some cases, become permanently united by adhesive inflammation. The consequence of this is, that the mucous secretion, whether natural or diseased, is retained within the cavity, and becomes the cause, not only of increased inflammation, but of enlargement of the cavity, and ultimately of caries of some part or other of its parietes.

"The term abscess," he thinks, "as applied to the disease in question, has given rise to very mistaken notions of its nature, and not less erroneous principles of treatment. As well, he says, might gonorrhœa be termed abscess of the urethra, or catarrh of the bladder abscess of that organ, as the disease in question abscess of the antrum maxillare."

He considers the matter discharged as a vitiated secretion of the mucous membrane, the result of high and long continued inflammation, analogous in this respect to gonorrhœa, to which he compares it; and that caries of the bones is merely the consequence of long continued pressure.

The means of cure consist, first, in the evacuation of the contained fluid, in those cases where the nasal opening is closed; secondly, in correcting the diseased condition of the membrane; and thirdly, in the removal of such portions of bone as may have become carious.

Some very interesting cases are given illustrative of the pathology and treatment of this severe complaint, with occasional remarks, characterized by great judgment and good sense.

Under the head of *Neuralgia* or *Tic Doloureux*, the author has presented us with some exceedingly interesting remarks. He informs us that

"Having, for some years past, paid no inconsiderable attention to the different forms of this complaint, I have long since come to the conclusion that two distinct affections—distinct in their causes, and equally so in the effect which different remedies are found to exert upon them—have been confounded under these terms; the one constitutional in its cause, and curable by general remedies; the other local, which, though occasionally relieved to a certain degree by such treatment, can only be permanently cured by the removal of the local cause, which, unhappily, often lies too deep to be within the reach of any operation."

In those cases which have a constitutional origin, periodical returns of the paroxysms are, in the opinion of Mr Bell, an invariable symptom. In the local disease, on the contrary, the pain is either continued, without any marked paroxysms of increased suffering, or the attacks are sudden, frequent, and interrupted by intervals of perfect ease, but recurring from time to time, and in both cases without any regular periods. This is the most obvious diagnostic character by which, according to the author, the two diseases may be distinguished.

"It appears," he remarks, "that no cause operates more frequently in producing, or at least in increasing the disease, than any violent mental agitation or long continued anxiety. Numerous cases have come under my notice, the origin of which could be traced to the loss of near friends and relatives, a sudden reverse of fortune, disappointment of long cherished and ardent hopes, and similar causes of mental depression; and in almost all cases such circumstances occurring during an interval of relief, or even after the disease has been apparently cured, will be likely to occasion its return.

"There is one circumstance which it is of the utmost consequence to attend to in this complaint, and which is an universal attendant upon its attacks, whether as a cause or consequence. I mean a more or less deranged state of the digestive functions. I never saw a case of constitutional neuralgia without a white tongue; and I never knew one cured by any of the usual constitutional remedies, until the digestive organs were restored to a more healthy condition."

Such are the views of the able author on this complaint; and rational as they undoubtedly appear, they are yet infinitely the more valuable in consequence of being deduced from much and close observation of the disease.

After the exposition which has been given of the pathology and exciting causes of neuralgia, it is hardly necessary to say, that in the constitutional affection, from its periodical character, his treatment is almost precisely the same as that proposed by Dr M'Cullough, viz. emetics, &c. to cleanse the primæ viæ, followed by arsenic, bark, or some of its preparations, and the sulphates of zinc or copper, &c. In the local kind, the treatment consists in the removal of the local cause, as the extraction of the offending tooth, if it proceed from that source; or whenever this cannot be done, endeavouring to control or mitigate its influence by narcotics, counter irritants, &c. He likewise advises in some of the cases which proceed from a local cause, the same medicinal agents that are employed in the other variety.

A number of other subjects are treated of by Mr Bell in his work, which we cannot undertake to examine at present; nor do we pretend to have done justice to the author in the extracts which have already been made. The brevity which is prescribed to reviews like the present, necessarily forbids us from being prolix on any subject, and still more where there are a number of distinct objects of inquiry, many of which would require more space for their complete display than it is in our power to bestow upon the whole. We cannot, however, close these remarks without recommending the excellent work of Mr Bell to the perusal of every man who practises the healing art; and especially to those who, from their residence in the country, are obliged to perform many of the offices of the dentist, as well as those of the physician. On the subjects which it embraces, we have no hesitation in pronouncing it to be the best treatise in the English language.

Article VI.—*Die Ohrentzündung; aus dem Jahrbücher der ambulatorischen Klinik zu Halle. Von* P. Krukenberg, M.D. *&c. Zweiter Band. Seite* 203.

On Otitis, or Inflammation of the Ear. By P. Krukenberg, M.D. *Professor of Medicine in the United University of Halle and Wittenberg.*

Of the plan and execution of Dr Krukenberg's Annals of the Clinical Institution at Halle, in which work his Essay on Otitis first appeared, we have spoken on a former occasion in terms of commendation.*

The individual essays of which it is composed, chiefly productions of the professor's own pen, considered in relation to the numerous facts they contain, and their practical applicability, are all confessedly of a character superior to the great mass of articles which fill the pages of most medical journals. They are, strictly speaking,

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* See Vol. VII. page 380.

clinical records of the phenomena noticed in certain important diseases, as they occurred in the patients falling, during a series of years, under the care of the institution over which Dr KRUKENBERG presides; together with the result of autopsical examinations in such cases as terminated fatally, and an account of the treatment which was found most successful in the removal of the various forms of each morbid affection. To the essay on otitis our attention will be exclusively directed on the present occasion: as a clinical account of the disease, the article has peculiar claims to our notice.

The organ of hearing is extremely liable to be the seat of inflammation, especially in children, when, from the obscurity of its symptoms, the disease is often overlooked during the very stage at which medical treatment is the most imperiously demanded. Promptly met by appropriate remedies at an early period subsequent to its occurrence, inflammation of the ear is, in general, very readily controlled; but when left to itself, besides occasioning much suffering to the patient, it is very apt to impair the sense of hearing, and to give rise to a chronic and extremely offensive discharge from the ear; or, in less fortunate cases, to destroy entirely the functions of the organ. From the facility, also, with which the inflammation is propagated to the brain, or to its membranes, death itself may be the result. The disease is one, therefore, deserving of a minute and attentive study.

The inflammation may affect either the external meatus or the cavity of the tympanum and the deep seated portions of the ear. When seated in the meatus externus, the patient, if old enough to describe his sensations, complains of pain, attended frequently with a sense of burning in the affected ear. The pain varies in its degree of intensity in different cases; it is mostly continued, and is increased when the cartilages of the ear are pressed together, as well as by the motions of the jaw in chewing. The pain often extends over the whole side of the head, corresponding with the inflamed ear.

In very young children, the existence of the disease is indicated by their restlessness, disturbed sleep, frequent screams, rolling of the head upon the pillow or arm, and by their refusing to lie on one particular side of the head, or crying violently when so laid. Many children are found to drag or tear frequently at the affected ear. It is pro-

per however to recollect, that most of these symptoms may be produced by a small farunculus seated within the external opening of the meatus. But in genuine otitis, by a more close examination, the external meatus is found to be unusually red and swollen, often bleeding readily upon the slightest touch. In severe cases there is frequently perceived, upon the anterior surface of the membrana tympani, a net work of vessels strongly injected with blood.

In general the external ear presents no symptoms of disease; sometimes however the sense of increased heat extends over the whole of the outer organ, as well as over the cheek of the affected side, these parts being actually hot to the touch.

In conjunction with the foregoing symptoms there is a sense of fullness, with more or less singing in the ear, and an obtuseness of hearing. The local phenomena may be accompanied with the ordinary febrile symptoms; this is particularly the case in robust and very irritable habits, in whom the disease is attended by a sense of coldness or complete chill, succeeded by increased heat of the surface, a frequent, full pulse, oppression of the head, yellowness of the tongue, thirst, constipation, want of appetite, nausea or vomiting, anxiety, &c. In some instances the fever is accompanied by more marked symptoms of cerebral affection—drowsiness, convulsions, or considerable delirium. The disease is in such cases very apt to be mistaken for inflammation of the brain, or acute hydrocephalus. But although fever is a frequent, it is by no means a necessary or constant attendant upon inflammation of the ear. In many instances we have seen the disease run its entire course without the slightest degree of general excitement. So obscure in consequence has the case appeared, that we have known even experienced practitioners at a loss to determine the seat of the disease under which the infant laboured, until this was very clearly pointed out by a sudden and copious discharge of blood and matter from the external ear.

In otitis of the meatus externus, an inflammation not unfrequently occurs, also, in the cellular membrane surrounding the ear, externally; indicated by a redness, somewhat resembling that of erysipelas, a rather diffused swelling, and great sensibility of the parts; this inflammation runs on quickly to suppuration, when a pretty extensive fluctuation is perceptible. With this external inflammation there is likewise an œdematous swelling of the eyelids and cheek of the affected side, and a tumefaction and increased sensibility of the neighbouring lymphatic glands.

In the form of otitis now under consideration, the pain and other local symptoms, after continuing from a few hours to one or two days, may diminish in violence, sometimes suddenly, when there takes place an increased discharge from the ear. This discharge is occasionally a clear serous fluid, often mixed with more or less blood. In other instances it is thin and yellow ; and in others yellow, somewhat thick, and containing portions of coagula resembling cheese. The fluid discharged is often without any decided odour, but occasionally, it is extremely fetid. When the inflammation of the ear has been slight, the discharge is trifling, and quickly disappears ; but in more violent cases, at first small in quantity, it becomes subsequently more copious. With the increase of the discharge the other local and general symptoms disappear. While the discharge from the ear continues, the mucous membrane of the meatus retains most commonly a thickened, spongy appearance, to which there can be no doubt that the dullness of hearing, of which the patient now complains, is mainly to be attributed. In ordinary cases, after continuing for six or eight days, the discharge diminishes in quantity, assumes a whey-like or curdy appearance, and finally ceases, when the healthy secretions and condition of the ear are restored.

During the continuance of the discharge, very slight causes are extremely apt to cause its sudden suspension, and a return of the inflammation in an aggravated degree.

Not always, however, is the termination of the case so favourable as we have just described. The discharge, in place of gradually diminishing, becomes almost constant, varying in quantity in almost every case. Occasionally it may be totally suspended for a short time, and then suddenly reappears in an increased amount. The fluid poured out is either a bloody serum, or of a thick purulent appearance, commonly highly fetid, and so acrid as to inflame the surfaces over which it passes. The mucous membrane of the meatus is thickened and spongy, very sensible, and readily bleeds. The diameter of the meatus becomes contracted, and the examination of the latter, or of the membrana tympani, is attended with severe pain. In these cases one or two polypous excrescences are very apt to arise from the sides of the meatus ; sometimes even from the membrane of the tympanum. They are generally soft, very compressible, and adhere by a slender pedicle. The sense of hearing of the affected ear is, in such cases, nearly destroyed.

In still more unfavourable cases the membrana tympani becomes destroyed, the morbid and often highly acrid excretions find their way into the cells of the mastoid portion of the temporal bone, and extend the inflammation to these latter parts.

When otitis affects the internal ear, the seat of the inflammation is most commonly the mucous membrane lining the tympanum, the inner surface of the membrana tympani, the mastoid cells, the eustachian tube, &c. But in very violent cases, the labyrinth, the temporal bone, the membranes, or even substance of the brain itself, become involved in the disease, causing very often great and prolonged suffering, complete deafness, or even the death of the patient.

In general there is more or less of severe pain, deeply seated in the affected ear; the pain often occurs suddenly, and is either of a dull boring character, or acute and throbbing, with a sensation of intense heat. It is sometimes continued; but it is in general augmented during the night, and less severe in the day. The neighbourhood of the mastoid process is often particularly painful and tender upon pressure. The pain, in many cases, extends to the whole side of the head, corresponding with the diseased ear, and is increased by chewing, sneezing, coughing, or even by bending the head forwards. It is sometimes so intense as to render the patient nearly maniacal.

The inflamed ear is sensible to the slightest noise, and experiences a painful roaring; with these symptoms there is deafness, vertigo, &c. If the disease commenced originally in the internal ear, the meatus externus remains unaffected. Some patients complain of a tickling and burning in the throat, in the neighborhood of the tonsil of the affected side. In these instances the fauces are found to be reddened. The foregoing local phenomena are usually attended with more or less fever, a frequent, full, hard and tense pulse, furred tongue, pain of the head, and great restlessness. In some cases the whole of the symptoms which have been detailed, after continuing a few days, may gradually diminish in intensity, and finally disappear; leaving behind, however, not unfrequently, a dullness of hearing, with singing in the ears, which is increased during cold, damp weather; after a long continuance these at length gradually disappear. Slight attacks of inflammation of the external meatus are very apt to occur at intervals, subsequent to internal otitis.

In other instances, after the pain of the ear, rising often to the

highest degree of severity, and destroying the rest of the patient both night and day, has continued from four to eight days, there suddenly takes place a yellow purulent discharge, often streaked with blood, from the affected organ; the pain now diminishes in intensity. In favourable cases the discharge is thin, light coloured, moderate in quantity and without fetor; it is attended with a slight degree of difficulty in hearing, which, in a few weeks, entirely disappears. Sometimes the phenomena of inflammation in the internal ear are renewed, at intervals, to a greater or less extent, succeeded by an almost habitual discharge from the ear, during the height of which the pain nearly disappears; ordinarily, however, the discharge diminishes at night and the pain augments: the discharge being the most extensive, and the pain the least severe, during the day.

The fluid which escapes from the ear is of a greenish yellow colour, either of some consistency, or watery and mixed with blood. It is mostly of an offensive odour, sometimes insufferably fetid. Occasionally it contains small portions of dead bone, and is so acrid as to cause an ulceration of the parts over which it flows. More or less deafness, and a constant singing of the affected ear attend these symptoms. The membrana tympani becomes destroyed to a greater or less extent; the patient being often able to drive the air from the fauces through the ear, so that it escapes by the meatus externus, accompanied with a hissing sound. Injections thrown into the ear from without will also sometimes escape into the throat. The bony parietes of the tympanum become denuded of their periosteum, rough and carious. The affected ear often bleeds from the slightest touch, and even spontaneously. Polypous excrescences arise either from the cavity of the tympanum, or from the external meatus, varying in consistency and in size. In these cases the patients are not uncommonly feverish, and complain of a severe dragging pain of the head. They have a dull leaden expression of countenance, and very frequently die apoplectic.

External inflammation of the parts surrounding the ear sometimes takes place in cases of otitis interna, attended with fetid discharge from the meatus, fever, great muscular exhaustion, disposition to faint, and violent delirium. When suppuration takes place externally, and the pus is discharged, all the symptoms may diminish in intensity, and the patient soon recover. But occasionally, when the suppurating cavity is opened, the mastoid process is found

to be carious, admitting a probe to be readily passed deep into its cells; extensive suppuration now takes place in the surrounding cellular membrane; the discharge from the ear becomes copious and offensive; the patient becomes hectic, debilitated by night sweats, and depressed in spirits. If he recover, it is only with extreme difficulty, and after many months of suffering. We met with a case of this kind in a child: the external suppurating cavity communicated, beneath the cartilage of the ear, with the cavity of the tympanum; on being opened, the discharge from it was very copious and intolerably fetid. The little patient was removed to the asylum, where it died.

It sometimes happens that the discharge from the inflamed ear is suddenly suspended, and the patient is attacked with intense pain of the head, particularly over the eyes, with severe fever, nausea or vomiting, delirium, followed by a staggering unsteady gait, loss of consciousness, distortion of the eyes, and other symptoms of cerebral disease. The patient frequently also dies apoplectic, if an adult; while young children, in similar cases, most commonly expire under all the symptoms of acute hydrocephalus.

The morbid changes discoverable after death in those who have sunk under inflammation of the ear, will of course differ, according to the violence of the case and its complications. In most instances it will be found that the membrana tympani and the bones of the ear have been destroyed. The cavity of the tympanum contains, in general, more or less fetid pus, its bony parietes being in a state of caries. Frequently the caries extends to the vestibulum, semi-circular canals, cochlea, &c. the whole os petrosum being converted into a kind of carious cavity filled with putrid sanies. The cells of the mastoid process are likewise frequently found affected with caries. A case is related by Dr KRUKENBERG, in which the mastoid process was enlarged and converted into a soft, homogeneous mass, readily cut with the knife. The vessels of the brain, particularly on the side of the diseased ear, are often found in a state of engorgement. The membranes of the brain may be more or less inflamed, or an effusion of serum or of coagulable lymph is discovered in the ventricles, between the membranes, or at the basis of the cranium. Softening and abscesses of the brain have likewise been met with. Dr KRUKENBERG relates a case, also, in which the whole internal ear was destroyed by caries, and through a perforation of the petrous portion of the temporal bone the

sanies from the ear had found its way into the cavity of the cranium. The brain in the immediate neighbourhood was in a state of sphacelus, and the bones, at the basis of the cranium, were carious.

Otitis most commonly occurs in children; it is by no means, however, a rare disease in adults; it may affect even the aged. It is said to occur most frequently in those predisposed to scrofula, and we think that our own experience has confirmed this fact.

Its causes are pretty much the same as those of other inflammations; as contusions or other violence inflicted upon the neighbourhood of the ear. It may also be occasioned by small substances or irritating fluids introduced into the meatus; by exposure to a current of cold damp air, &c. Persons labouring under rheumatism or syphilis are very liable to this inflammation. In children, a common cause of the disease is the sudden drying up of discharges from ulcerations behind the ear, by the imprudent use of astringent washes, powders, &c. Erysipelas affecting the face, and extending into the meatus externus, will often give rise to it. So also the porrigo larvalis, porrigo favosa, and other eruptions extending into the latter canal, not unfrequently are a cause of otitis. Inflammation of the ear may occur likewise in the course of measles or scarlatina; in the majority of such instances its occurrence may with great propriety be attributed to neglect or mismanagement on the part of the practitioner.

Treatment.—On this subject little need be said. During the inflammation, and as soon after its occurrence as possible, direct depletion by the lancet, and the application of leeches about the ear, with the employment of pretty active cathartics, adapted in extent to the violence of the symptoms, the age and constitution of the patient, and other circumstances, are imperiously demanded; and if promptly resorted to and employed with judgment, will seldom fail in arresting the disease and preventing all the disagreeable or serious consequences to which this inflammation, when neglected, is so apt to give rise. After the violence of the symptoms has been thus reduced, great benefit will, in most cases, result from blisters behind the ear, and the administration of small doses of calomel and digitalis.

The steam of warm water, or of a warm decoction of herbs, directed to the ear by means of a funnel, and frequently repeated, will, in many cases, be found of advantage.

It is hardly necessary to say, that in every instance a minute

inspection of the affected ear should be made, as well to determine the character and extent of the disease, as to ascertain whether it may not have been occasioned by some substance introduced into the cavity. If the latter is discovered to be the case, the propriety of promptly extracting the foreign body will be evident to every practitioner.

When inflammation of the ear has been caused by the imprudent drying up of the discharge so common in children from the external neighbourhood of the ear, a blister, or, what is in general preferable, frictions with the tartar emetic ointment ought always to be resorted to. The external inflammation with which the otitis is in some instances accompanied, is to be treated in the ordinary manner.

When the inflammation has given rise to a discharge from the ear, the meatus should be kept perfectly free from an accumulation of the matter effused, by means of frequent, cautious injections into the ear, with an appropriate syringe, of a tepid infusion of chamomile or elder flowers, or of the pith of sassafras. The morbid excretion not appearing to diminish, it is recommended to employ injections of a weak solution of alum, sulphate of zinc, acetate of lead or corrosive sublimate. We believe the better treatment to be repeated blistering behind the ear, and the cautious injection into the meatus of a solution of nitrate of silver; this is the practice which has certainly succeeded the best in our own hands. From the use of none of the other articles, in cases of long continued and obstinate discharges from the ear, have we derived the least advantage. Under similar circumstances, Dr KRUKENBERG has employed, with good effect, a salve composed of red precipitate, flowers of zinc and opium, and introduced into the meatus by means of a hair pencil. This ointment he conceives to have been peculiarly advantageous in cases in which there occurred in the meatus small vesicles succeeded by crusts, under which a quantity of watery pus was collected. The ear ought in these cases to be guarded from the effects of external cold, and from the ingress of flies or other insects, by a proper bandage. To remedy the fetor with which the discharge from the ear is generally attended, we know of nothing more effectual than a solution of the chloride of lime thrown into the ear by a syringe.

In cases of internal otitis, when we have reason to suspect that the cavity of the tympanum is filled with pus, Dr KRUKENBERG proposes to perforate the membrana tympani in order to allow of its

evacuation. When the physician is called to the case sufficiently early, he has it very generally in his power, and ought therefore, to prevent the occurrence of suppuration; when, however, his advice is not requested until after suppuration has taken place, it will almost always be found that the membrana tympani has been already destroyed by ulceration; hence its perforation will seldom be required. It is an operation which, we conceive, under all circumstances, is of doubtful propriety.

Polypi of the meatus are to be destroyed by the frequent application of lunar caustic; or when they are ascertained with certainty to arise from the parietes of the meatus by a slender pedicle, they can be twisted off with a forceps, and the spot from whence they arose well touched once or twice with the nitrate of silver.

The treatment of those cases in which otitis is connected with syphilis; or in which the irritation has extended from the ear to the brain, need not here be considered; it being the same as that to which well established general principles would necessarily direct us.

ARTICLE VII.—*A Practice of Physic, comprising most of the Diseases not treated of in "Diseases of Females" and "Diseases of Children." By* WILLIAM P. DEWEES, M.D. *Adjunct Professor of Midwifery in the University of Pennsylvania; Member of the American Philosophical Society; Member of the Philadelphia Medical Society, &c.*

We live in an age when the fear of *debility* causes a prodigal use of *stimulants;* and this is often at the expense of the health and the life of the patient.—*Broussais, Phleg. Chron. Vol. II. p.* 82.

Had I dared to bleed freely, and especially by means of leeches, the patient might have been saved; but I was afraid of *debility*. But, who is to *blame!*—*Ibid. p.* 178.

In two Volumes. Philadelphia. Carey and Lea, 1830. *Pp.* 833.

We have heard it said of the late Dr GREGORY, that he read CICERO much more frequently than BOERHAAVE and HALLER, when he was preparing himself for the publication of the Conspectus

Medicinæ Theoreticæ. Certain it is, that this work merits more praise for its pure style than for the importance of its physiological and medical principles. The very reverse of this opinion will apply to the "Practice of Physic" by Dr DEWEES. ADDISON and JOHNSON have been little imitated in its pages; but then some of the best medical writers of the present age have been consulted, and their views illustrated and enforced by the long and large experience of the author himself. Facts are ever more valuable than forms; and although new and useful ideas may be impressed more engagingly on the mind, when clothed in the garb of a fine style, they will never fail, from their own intrinsic value, to arrest the attention of the searcher after truth, even though exhibited occasionally in an uncouth manner. We would say, like the Edinburgh Reviewers in their notice of the juvenile poems of Lord Byron, but in a much more kindly and respectful spirit when applied to the work before us, we must take it as we find it; be thankful; and, with honest Sancho, exclaim, God bless the giver!

The claims of Dr DEWEES to the confidence of the medical profession, and through its members on the public at large, are neither few nor unimportant. Happily they are so well known, and, as we believe, so justly appreciated, that they need not be again set forth on the present occasion. We may say, however, that his several works on Midwifery, the Diseases of Females, and the Physical and Medical Treatment of Children, maugre occasional obscurities of expression and redundant phraseology, are now generally considered as classical authority. Whether his Practice of Physic will be received with the like deference and regard is perhaps more doubtful. While restricting himself to his own peculiar domain, the obstetric art and its immediate branches, Dr DEWEES had few rivals, possessed as he was of experience, and ability to turn that experience to account which fall to the lot of few men. Now, however, that he goes over the wide field of medical practice, a range common to us all, and cultivated with more or less zeal by so many among us, he must naturally expect to have his observations more severely scrutinized, and his opinions subjected to the test of a more rigid logic than heretofore. We speak in the name of the crowd, of the many, each one of whom conceives himself free to praise or censure particular portions of the work, according as they square with his own views and experience. That the votes thus taken can be relied on as accurately expressive of the real merits of the ques-

tion we are far from believing. Indeed, we know, ourselves, that many a criticism already boldly and broadly ventured on, has not met with an echo from cautious and impartial persons, whose critical acumen, to say the least, entitles their opinions to some consideration. We are far from entertaining the vain hope that we can lay down the standard by which the present work of Dr DEWEES ought to be measured. To be able to do this with effect would demand a copiousness of illustration and variety of research little inferior to what we require in the author himself: and, in addition, we should have to ask for more time to make the commentaries than he has taken to prepare the text. This very supposition conveys, and we fear not unjustly, implied criticism on the haste with which the present volume has been composed. The leading facts and outlines of opinions contained in it were matters of long, familiar experience, and frequent, if not daily recurrence to him; but their junction and blending with the knowledge of others, so as to make a pleasing mosaic of the whole, was an affair of more time and labour than Dr DEWEES has evidently chosen to give.

Notwithstanding the comprehensiveness of the title, "A Practice of Physic," the work does not include an account of many important states of the animal economy with which the general practitioner ought to be well acquainted. The reasons for the omission are given by the author; but we must confess that they do not strike us as very satisfactory. It is exacting rather too much from the reader to require that he should have the two books, on the "Diseases of Females" and the "Diseases of Children," before him as necessary complements to the "Practice of Physic," when we reflect on the very high price of each of them, and the consequent improbability of the purchaser of the last being proprietor of the two first; to say nothing of the dissatisfaction one feels at being obliged to travel from book to book on subjects which he was led to expect would be naturally treated of in the compendium before him. But he has still farther to learn, that the circle is not yet complete, and that the author, not satisfied with the investigations of others, nor with his own proper experience up to the present moment, in such diseases as jaundice, tetanus, hydrophobia, rickets, and almost all the neuralgiæ, postpones treating of them now, but hopes to do so more satisfactorily at another time. Hence, notwithstanding the announcement of "A Practice of Physic," in two volumes, to the medical public, we soon discern that the Practice

of Physic is or will be in five or six volumes. We wish this matter could have been differently ordered. We are aware, however, that at the present day an author is not so much of a free agent as people generally imagine; and that the bookseller exerts no little influence over his performances in regard to their volume and arrangement, as well as the time of their appearance, and even the subject itself. How far, if at all, this cause has been operative on the present occasion, we cannot positively pronounce.

But, waving these objections, we ought, as already remarked, to receive this work of Dr Dewees with thankfulness; not because it is the best which he is capable of writing, but because it has in it much sound doctrine, and many useful cautions and directions of the highest moment to the young practitioner. We shall now proceed to state our grounds for this belief, and furnish our readers with justificatory and corroborative documents from the work itself. We like much the following, which is a part of the author's profession of medical faith:

"In treating the various diseases which we have at present subjected to our consideration, we have been particular, whenever practicable, to dwell upon pathology as long and as minutely as was consistent with our present design, believing most firmly ourselves, however incredulous or indifferent others may be upon this point, that it is the only true foundation to rest practical medicine on.

"The great light which the French pathologists have shed upon the nature of fever has enabled us, in a very remarkable manner, to curtail its course and to lessen its danger. The present work is not one in which it would be either necessary or proper to discuss the nature of this class of diseases—we shall therefore not attempt it. It will be every way sufficient for our purpose to state, that the variety of fevers formerly made by some nosologists, is now very much diminished; and the mode of treatment, founded upon examinations after death, has been very much simplified.

"It appears to be at this time settled, at least as far as unanimity can prevail upon a subject not susceptible of absolute or rigid demonstration, that in all the supposed varieties of fever as recognised by some, (but which, by very many of the best informed of the present day, are looked upon almost as gratuitous), the lining membrane of the stomach is constantly found, after death, to be in a state of inflammation, more or less; and that all the constitutional symptoms or the phenomena of fever depend upon the altered condition of this organ, and consequently that all the remedial means are such, and such only, as are calculated to diminish or remove it. And farther, that every thing which has not this tendency, is not only useless, but injurious."

The author admits, that this doctrine has been, in some cases, acted on too exclusively, and that leeches and absolute starvation have been relied on, to the neglect of removing the extraneous substances which almost always occupy the stomach or the bowels. But he is not backward, at the same time, in reprehending the prevalent idea upon the subject of clearing the first passages; to wit, that remedies are required active in proportion to the violence of the constitutional symptoms; "the very reverse of which is the fact, if the opinions we have adopted of the cause and for the cure of fever be true."

"8. It is to the French pathologists chiefly, but especially to Broussais and his friends, that we are indebted for the late important discoveries in morbid or pathological anatomy; and for the great improvement in the mode of treating almost every febrile affection founded upon these researches. And though we admit, without hesitation, that they have, in some instances, run into an ultra mode of treatment, yet we are, in truth, obliged to acknowledge the value of their discoveries.

"9. The premises and deductions of Broussais, we are aware, are not universally admitted; but in this he shares but the fate of all who have made valuable contributions to medical science. Some pass over his suggestions even without notice, while others furiously dispute the condition of the organs on which they are based. The one is a reprehensible indifference; the other, too often, is an uncandid examination."

The remarks which follow are somewhat at variance with the general principle laid down by the author in a preceding paragraph, which we have extracted.

"12. We do not, however, yield entire faith to the French pathology upon the subject of fever; namely, that its seat is always in the stomach. For, so far, we have not had sufficient proof, that an inflamed condition of the mucous membrane of this organ is the true cause of adynamic or typhus fever. So far as dissections can be relied on, this organ has very often been found in a normal state in patients who have died of this fever. The brain, the liver, the spleen, have all been observed to have borne marks of inflammation in the adynamic fevers; and in some other instances, dissection did not appear to reveal any thing that was conclusive upon this point. In all fevers that may have marsh miasma for their remote cause, the stomach, we believe, will almost always be found to be the seat of the affection."

Some exceptions to the gastro-enteritic doctrine of fevers are, we believe, demanded by the actual occurrences in disease; and the author, by thus qualifying his adhesion to the physiological

school, gives more weight to the favourable opinions which he unhesitatingly expresses of its truth and utility.

"The many highly important therapeutical observances in the choice, and in the administration of remedies," deduced from the creed of this logical school, are now emphatically acknowledged; as also the value of local depletion, either by leeches or cupping. "It moreover," continues the author, "directs the choice of both diet and drink, in cases of fever; for it at once admonishes us to the cautious use of all; and imperiously forbids the employment of any which may belong to the class of stimulants." He remarks with great propriety in a note, "a physician cannot commit a greater mistake than to leave the choice of drinks to the attendants upon the sick; this should be one of his unalienable rights, and one of his most positive duties; nor should he ever dispose of them. The directions for the drink of the patient are oftentimes of more value than the prescription of medicine; and the practitioner is highly culpable, who neglects to specify both the kind of drink and the nature of the aliment, before he leaves the sick room. And we are sorry to be obliged to acknowledge it as a fact, that we have known many instances where neither diet nor drinks were specified by the physician, though the patients were labouring under diseases of an acute form."

The whole of the *General Observations*, consisting of nearly fifty pages of introductory matter, from which the above extracts are taken, are unequivocally good, and entitled to an attentive perusal by young practitioners. We have been surprized to hear any of this class speak in terms of disparagement, and even of ridicule, of cautions and directions for the intercourse between physician and nurse, and between the latter and the patient in a sick room. Much of the reputation of a medical man, and no little of his usefulness, will depend on his self possession and firmness at the bed side of the sick. Now we know of no better means of enabling him to display these qualities, next to an intimate acquaintance with the disease, than a full knowledge of all the details of the administration of medicine and drinks, the due regulation of temperature by the admission of air and suitable clothing, and the numerous little contrivances for withdrawing the attention of the patient from his painful sensations, and preventing him from indulging in gloomy forebodings.

The remarks of Dr Dewees on the duties and qualifications of a nurse are among the most valuable parts of his work. He speaks

from extensive experience, and an intimate acquaintance with the nature of the duties which he lays down, as well as with the sad consequences of the neglect or imperfect discharge of them. He stigmatises, with becoming severity, the disingenuousness, ignorance, and self sufficiency not unfrequently met with in the attendants on the sick; whereby prejudices of the worst kind are enlisted against the physician, to the complete nullifying of his directions, and consequent loss of his usefulness.

The following paragraph justifies fully the assertion of the author, that "for a nurse to put her judgment in opposition to that of a physician is both arrogant and dangerous."

"19. Now can it be for a moment supposed, that an ignorant, uneducated woman, (be her experience what it may), shall be as well qualified to judge of the condition of a patient as the man who has devoted the better portion of his life to the investigation of diseases? This, we are persuaded, will be answered by every thinking being in the negative; yet, is there a physician living who has not seen, in many instances, the opinion of a nurse preferred to his during his attendance upon the sick? As a mere matter of calculation, and to which every school boy is altogether competent, it will be found, that in no instance can the judgment of the nurse be equal to that of a well instructed practitioner, of even moderate practice. For a nurse cannot, for the most part, attend but to a single patient at a time, and the whole that may fall under her charge amount to a very few; consequently her observations must, from the very nature of things, be very limited: while the physician, in the same period, may see hundreds; and of the condition of which, from his education, habits of thinking, and talent for observation, is infinitely better qualified to decide upon the nature of the disease and its mode of treatment."

The waywardness and false notions of the relations and friends of the patient are next noticed by the author, as supporting the nurse in her misconduct. For, did not they "consent to become faithless to their duty; a duty rendered sacred by every tie, and by every law; the nurse could not, perhaps would not, dare to act contrary to the most absolute and well defined directions of the physician. It is quite time that this grievance should be redressed; it is the bounden duty of every individual in society to aid in this important change; nor is the remedy difficult to find, for it consists simply in each individual determining to become faithful to his own interests, and consequently disregarding the crude opinions of a nurse."

The most pernicious effects of mismanagement on the part of

the nurses and friends are displayed in their attempts to prevent the, by them, ever dreaded phantoms of *debility* and *typhus*. "They are the dreaded and constantly rung tocsins in the ears of the physician; and, unfortunately, if he be not a man of marked moral courage, and have not proper confidence in himself, he becomes so appalled and overpowered by this din, as to yield up his judgment; and this to the destruction perhaps of the life entrusted to his care."

The author, after noticing the erroneous methods resorted to by these persons, who think that their fears, based on ignorance, will be a full justification for their practical cruelty and barbarism, in tormenting the patient labouring under inflammation with animal broth or flesh, bark, volatile alkali, wine, &c., gives an opinion to which we sincerely respond. "And we may here declare, once for all, that it is our most solemn and deliberate opinion that the apprehension of debility, and of typhus, has caused more deaths than the unrestrained plague, or the much feared yellow fever." And again, when reprobating the precipitate haste with which chicken water, beef teas and the like are had recourse to in the decline of fever, he says, "we are truly of opinion that '*chicken water*,' that *simple, innocent substance*, as it is usually called, has done more mischief in acute diseases than even the ill-judged use of the lancet, or the too freely urged mercury."

But we cannot pretend to present to our readers all that is worthy of being extracted from this part of the work, where all is so good. We repeat it, no young physician ought to be ignorant of the details which the author gives, under the several heads of *qualifications of a nurse; the faithful administration of medicine; giving drinks and nourishment; cleanliness, with ventilation; temperature of the sick room; regulating the warmth of the patient; the examination and preservation of the excretions; the patient's sitting up; making of the bed; proper using of the utensils for evacuations; skill in applying and dressing of blisters; administering injections; the management of convalescent relapses.* On all these points the medical attendants ought to be well informed in order to keep the nurse to her duty, so as to enforce the right and the expedient, and exercise a restraining power over what would be, through her ignorance and waywardness, injurious if not fatal to the patient.

Among many pertinent remarks on the causes of, and danger from a relapse, Dr Dewees makes the following:

"150. It has ever struck us with surprise, that people who are

altogether unacquainted with the structure of the human body, or with the laws which govern it, either in a state of health, or more especially when labouring under disease, should take the awful responsibility upon themselves to direct what is supposed by them to be proper, during the existence of disease, or when the system has just struggled through it."

"160. But strange to tell, there is no one who does not deprecate this interference in the abstract; yet every body at the moment they have an opportunity to infringe it, flatter themselves that they become exceptions to the rule, and that what they say or do cannot be otherwise than right; or at least that it cannot do harm. In the other concerns of life does the same docility occur? if the distribution of property or the employment of money become the subject of advisement, much hesitation and deliberation are exercised before the sought for or proffered advice is followed. If a coat is to be cut, or a pair of shoes or boots are to be made, the qualifications of the recommended are carefully scanned before they are to be trusted; but the business of sickness or health, or of life or death, is dismissed with the most frigid indifference; and too often the advice of one totally incompetent to the task is adopted, to the neglect of that given by one who was every way able to direct."

"How many orphans, widows, or desolate husbands have to thank the officiousness of friends for their sad condition; for, to the advice or the interference of those who had neither right nor talent to direct, may they too justly look for their misfortunes?"

This is strong, but we conscientiously believe it to be correct language. The "few rules" for the government of the nurse in regard to the administration of aliment are worthy of very attentive perusal. P. 58—64.

The strictly medical portion of the work begins with Chapter I. in which the author speaks "of Fever in general." Before we follow him in the views and details on this subject, let us cast a glance over his arrangement or classification of diseases. We must confess our disappointment at his want of method in this particular. We were sanguine enough to hope, after a perusal of his strong encomiums on the French doctrine of fever, that he would have carried out his division of diseases, agreeably to the received basis of that doctrine; at least that he would have presented something like physiological affinities in the groups of which he has treated. We can see no good reason for placing intermittents at the head of febrile diseases; but very many of great practical value in favour of their being discussed secondarily, as varieties of a class, which is itself distinguished by symptoms growing directly out of organic derangements. Thus, suppose we assume gastro-enteritic fevers as a class, we shall have

yellow as the most conspicuous example; then our common remittent, bilious and intermittents as additional ones, distinguished by numerous sympathies, and, especially in the case of the last, a suspension of irritation for a longer or shorter time. Any one of these may gradually glide into the other, so as to puzzle the most practised nosologist to tell whether it had ever assumed any other form than the last, or that in which it is exhibited before him. Were we to analyse the groups of symptoms met with commonly in all fevers, we should discover the active elements of a large majority of them to be a morbid state of the stomach; and, as the author himself distinctly declares, "that all the constitutional symptoms or the phenomena of fever depend upon the altered condition of this organ, and consequently that all the remedial means are such, and such only, as are calculated to diminish or remove it," we must necessarily be led into error when we assume an accidental or adventitious symptom, not essentially an evidence of the disturbance of the diseased organ, as characteristic, and justifying our treating of it separately and independently. This error, we humbly conceive to be committed, every time that intermittent fevers are spoken and treated of, as a separate class, deriving their peculiarity from their periodicity, the removal of which is considered to be the grand if not the sole means of curing them. With the monstrous evils which have resulted from this dogma, no person is more fully apprised than the gifted author himself, and we cannot but deeply regret that he has added the sanction of his authority to give it further extension and force; a result which cannot be obviated by all the cautions and sage rules which he may furnish when speaking of intermittent fever in detail. In his adoption of the terms intermittent, remittent, and continued, he obviously admits the time of duration of the paroxysms as a point of primary notice, and as the basis of his division. Indeed, premises so comprehensive must cover the whole ground of fever; since, having regard to time alone, we can conceive of no febrile affection not necessarily referrible to one or other of these three heads. Notwithstanding this, we find the author giving yellow and typhus fevers each a separate location: the one before, the other after, continued fever. Physiological affinity between these two and the other fevers is not attempted to be shown in his enumeration; and the other connection, unnatural enough we grant it to be, yet one admitted by himself, viz. of time, is severed in this case. He gives us the typhus form of continued fever, and yet thinks it neces-

sary, in a separate chapter, to treat of typhus itself. Is not such a division arbitrary, and one must needs say perplexing? It is equally adverse to the principles of Rush as of Broussais, whose views of the classification of diseases are the only ones which we know of, meriting notice or regard.

While adhering to some of the old nosological divisions, Dr Dewees deviates from others of them; but not, as we conceive, very happily. The exanthemeta form a tolerably natural class, which he has broken up, so that measles is treated of after typhus, and scarlet fever after apoplexy. Erysipelas, like the exanthemata, an inflammatory affection of the skin with an associated disturbance of the gastro-intestinal surface, is placed away in the second volume, between dropsy and phlegmasia dolens. If we follow on from the eleventh chapter to the nineteenth, we may perhaps suspect that he travels by regions, beginning at the head with phrenitis, then hydrocephalus internus, diseases of the eyes, catarrh, cynanche tonsillaris, cynanche parotidæa, cynanche trachealis, pertussis; peripneumonia, pleurisy, phthisis pulmonalis. The last three are considered under the title of diseases of the chest, than which few terms can be more obscure, when we reflect on the very different orders of tissues affected. Pericarditis begins a new chapter, although the organ in which it is seated is certainly in the chest.

Next follows peritonitis, which precedes a chapter, sections first, second and third of which are occupied with the consideration of puerperal fever, hysteritis and enteritis. Whatever claims the first of these may have to be regarded as a variety of peritonitis, they cannot well be urged in favour of the two last. Hysteritis is described by the author to consist, in its unmixed nature, "of an inflammation of all or any portion of the proper substance of the uterus," while mixed hysteritis is where the peritoneal covering of the organ and its substance are involved in inflammation at the same time. Enteritis is especially defined, and very properly too, by Dr Dewees, to be an inflammation of *the internal coat of the intestines*. He thus takes care, in the body of the chapter, to correct the erroneous impressions which the reader would entertain, by seeing, in the table of contents, peritonitis at the head and enteritis a section of the chapter, as if the latter were a variety of the former. In the next chapter but one, or that on diarrhœa, this mode of dividing into sections is adopted to designate the different varieties of the disease, such as bilious, mucous, &c. Rheumatism follows, and is succeeded by gout. Dropsy

is the subject of the next chapter, which precedes those on erysipelas and phlegmasia dolens. Following these is one on hemorrhages. Why fevers, dropsy and hemorrhages are thus separated we know not: the morbid activity of the sanguiferous system in all would certainly seem to justify our regarding them as more akin to each other than has been done by the author. Or, if an arrangement were adopted with strict reference to the tissues affected, hemorrhages, at least what are usually so called, would come under the head of diseases of the mucous system. Thus, catarrh, bronchitis, asthma, hæmoptysis are different degrees of derangement of this tissue as found in the lungs—the first or catarrh being irritation, causing a seromucous discharge; the two latter are kept up by engorgement, and the last is engorgement followed and partially relieved by a bloody secretion or discharge. So, in diseases of the alimentary canal, gastritis, enteritis, cholera, diarrhœa, colic, dysentery, hæmatemesis are modifications of irritation and inflammation of the gastro-intestinal mucous membrane. Colic in all its varieties, for what reason we cannot see, stands in this work apart from all its kindred affections, and comes after epilepsy, chorea, sancti viti or St Vitus's dance, and paralysis. We have already adverted to the insulated position of apoplexy in Dr DEWEES's classification. It is separated from hemorrhages, of which it is frequently one, and from the cerebral diseases among which it has a strict right to be considered.

We should have been less disappointed at this incongruous division of his subjects, if the author had not so freely, in the body of his work, invoked the aid of modern pathology, and animadverted on some of his cotemporaries for overlooking the brilliant views of BICHAT, as presented in his General Anatomy. Had he, himself, availed with care of these guides, the order in which he has treated of diseases would have been very different from that which he has followed, and we may add, much more instructive. Do we hazard too much in supposing, as an explanation if not extenuation of these incongruities, that the author allowed his publisher to print what articles he happened to have written first, without any strict regard to affinity or recognized connexion? These latter rules once disclaimed in the compilation of a work, it loses its systematic character; and we are compelled to ask, as a substitute, that the subjects be presented to us in alphabetical order, as in dictionaries and encyclopedias.

The chapter on "Fever in general" opens with the remark that

"hitherto no definition of fever has been given which is free from all uncertainty or ambiguity." As very justly observed by the author, "notwithstanding the many kinds or varieties of treatment made by some, they have all a general as well as a particular plan of treatment." He had before adverted to "the absurdity of multiplying the varieties of fever to the extent which some have done," as when "in many instances a single symptom in fever has been sufficient to establish a variety and a consequent difference in treatment; thus we hear of a *mucous fever*, because the tongue has happened to be very white; of a *bilious fever*, because it has chanced to be yellow; or a putrid or typhus fever, because this organ had become black, dry or brown." This is perhaps not a strictly accurate account of all the reasons of this nomenclature, though it exhibits correctly enough the partial views on which it is founded. The additional comment is worthy of notice.

"Now in all these instances the state of the stomach was most probably the same, differing only in degree, or in the activity of the inflammation which was the original cause of the constitutional symptoms, and which has these various states of the tongue very constantly, if not invariably as attendants. If this be true, and we think it cannot well be disputed, is it not worse than idle to make distinctions where there are no important or essential differences? or to institute a variety in treatment where our plan, if the right one and properly pursued, is every way sufficient for the end proposed!"

Fully coinciding, as we do, in the justness of these remarks, we are constrained to add, as our settled opinion, that the terminology of fever adopted by Dr Dewees, in common with the current writers on medicine, is to the full as objectionable as that which he has properly reprehended.

What knowledge of a disease can be furnished by our being told that it is intermittent, or remittent, or continued, when every morbid change to which the human frame is liable may appear under each of these forms—at any rate of the two first? Periodicity is no distinctive character. It is that which is assumed occasionally by inflammatory, hemorrhagic and nervous diseases. Does a distinct interval between paroxysms justify or demand a specific treatment? The affirmative reply has led to the prodigal administration of a particular class of medicines called tonics, in diseases of the most opposite nature, with the effect of an expenditure of life, of which now a days, with a better pathology for his guide, the enlightened physician is heartily ashamed. If the subsidence of the paroxysm and

the restoration of most of the functions be hailed as the signal for a peculiar kind of treatment, such as by tonics and the like; then that most treacherous remission in yellow fever, in which the patient says he is quite well, gets up out of bed and walks about the room, need excite little solicitude for the event, since all that we have to do is to pour down the medicines just indicated, and he will soon be well; or, what most generally happens, will be in his grave.

Dr Dewees begins the directions, which he conceives to be adapted to every species or variety of fever, by pointing out the means of preserving a proper temperature in the sick chamber, in order to allay the unpleasant sensations from the augmented heat of the patient's body. Artificial heat should not, he says, be added to the patient through the medium of the air, which ought not only not to be over heated, but also frequently renewed. Quiet should be preserved in the sick room, and in cases of delirium, or tendency to it, light ought to be carefully excluded. No unnecessary conversation should be indulged in; and above all, low whispering must be strictly forbidden. All covering for the patient, beyond what is absolutely necessary to prevent his feeling chilly, should be withheld as both useless and injurious. All his drinks should be cool, nay sometimes cold; the selection will depend upon the degree of thirst and dryness and heat of the skin. "The drinks of fever patients should consist of such articles as are most palatable, but at the same time they should be such as are free from all stimulus, unless the latter comports with the particular situation of the patient; in this case it forms rather an exception than a rule. We should therefore say that in all cases which do not require stimulating articles, as wine, brandy, &c. to be added, (and these are almost all cases of fever) the drink should consist of water, balm tea, lemonade, currant jelly and water, the water off dried cherries, very weak milk and water, barley water, flaxseed tea, either with or without lemon juice, sorrel water, &c. &c. We have purposely enumerated a variety of drinks that the invalid may have a choice. But simple cold water, as just noticed, is almost always admissible, especially when there is great heat." To this list might be advantageously added water containing a small proportion of gum arabic, rice water, or a weak solution of cream of tartar in water.

Respecting food the author most pertinently remarks: "In this country we are subject to many highly inflammatory diseases, in which the more complete the abstinence, the more the patient pro-

fits. There can be no error more injurious than the belief that the sick are in constant need of nourishment. This prejudice has destroyed its thousands; and it is one of the first and most important rules to be learnt by those who have charge of the sick, that in the commencement of any acute disease, little or no food is required.

"216. In no instance of fever, or any other disease of high action, is animal food, in any possible shape or disguise, as broths, &c. admissible—during convalescence it may be useful.

"217. When it is proper to administer nourishment in fever, it should always be given in small quantities at a time, say three or four spoonfulls, either large or small, as the patient may be either large or small. It should consist of weak milk and water, thin tapioca, sago, or arrow root (boiled of course), gruel either of Indian meal or oat meal; ripe fruits in moderate quantities, when in season, such as oranges, grapes, or roasted apples, may also be given. Gum arabic water is perhaps one of the least exceptionable articles of diet we can recommend. A cup of weak tea or coffee is frequently extremely grateful to the sick, and may almost always be permitted."

We doubt whether a patient will be induced to take gum arabic as nourishment without the addition of a little sugar and acid, and even then he has little love for it. We have had occasion, however, to rely solely on gum arabic water slightly acidulated with elixir of vitriol, both as food and drink, for two days, in the most critical period of a gastro-enteritic fever, after direct depletion had been largely practised; and some tonics and light animal broths were found to be decidedly detrimental. We have some doubts about the allowing of tea and coffee to a patient in febrile diseases; the latter is unquestionably a stimulant, without any redeeming good in furnishing nutriment. If the former be admissible, it ought to be given in the morning; it would be improper in the evening, should the patient be restless or irritable, and inclined to wakefulness.

"218. We can scarcely" says the author "be too particular in the body clothes of the patient; they should be daily changed when the patient is not too much exhausted to permit this; the bed linen should also undergo a daily change whenever it is practicable, and especially in those fevers that end their paroxysms by sweat."

"219. We have already intimated that much of the success in the cure of fevers will depend upon the promptitude with which remedies may be had recourse to, and upon the fidelity with which they may be administered; and these must be aided by the strictest attention to the proper regimen. Indeed without the latter the former would, for the most part, be entirely unavailing; much then depends upon the nursing, as it is termed, (see p. 25, par. 56, &c.)

"The intervals at which medicine is directed to be exhibited should

be carefully attended to, as a failure in this has frequently defeated a well devised plan of cure. A mistaken tenderness should not interfere with a prescribed or an imperious duty; nor should it interrupt the application of any important though perhaps a painful remedy. There is a time or period in almost every disease, at which a remedy is the most important; but if this time be allowed to pass, from mistaken kindness, indecision, or neglect, it may perhaps never return. Therefore remedies, to be efficacious, must be promptly applied and rigorously persevered in."

We have not introduced these copious directions on account of their novelty; but because we believe them to be wholesome truths, with the full force of which physicians are not, we fear, as deeply impressed as they ought to be. If any part of medicine is to be popularized, it ought to be directions of this nature, which are worthy of correct understanding and uniform adoption.

Under the section headed "General Plan of Cure," the author tells us that "in fevers of almost every description (as we have before declared), that state of the system called inflammatory prevails; and in the commencement of all, it would scarcely be too much to say that a preternatural fulness exists; so that we rarely meet with a fever, on the outset of which we do not find the blood vessels more than naturally active. When the contrary obtains, it is almost always in some uncommon epidemic or southern endemic, and these only form exceptions to the rule. We have therefore almost always to contend, in the early stage of fever, with an augmented heat, increased pulse, perhaps with loaded stomach and bowels; our remedies must therefore be calculated to diminish the two first and remove the latter.

"221. These intentions are to be fulfilled by, 1, cool or cold air, cool or cold drinks, and by such remedies as are indirectly calculated to produce this end; 2, bleeding; 3, sweating; 4, purging; 5, blistering; 6, tonics, &c."

This statement of the condition of things in fever strikes us as too meagre, and somewhat at variance with the professed creed of the author. A few symptoms, not always the essential or characteristic ones, are here introduced as the prominent phenomena of the disease. Increased pulse is a very vague and deceptive expression to indicate the morbid state of the sanguiferous system in fever. It calls off the attention of the young and inexperienced practitioner from those *irregularities* in the circulation which, though unaccompanied by an increased pulse, it is often of the highest moment to remove by the most energetic measures; to which he will not have recourse if his only guide be the symptom just laid down.

The enumeration of a loaded stomach and bowels, among the obnoxious symptoms of fever is, we conceive, too purely a mechanical idea, which furnishes an indication to a plan of treatment by purging, acknowledged by the author himself to be at times hazardous, and often of mischievous application. What we object to is thus laying down formally, as primary states of the animal economy in disease, what are but of secondary or occasional moment and occurrence, and then connecting with these states, which are so liable to be seen when they have no existence, particular classes of remedies which are so susceptible of doing harm, and which ought at best, in place of thus occupying the foreground, to be brought in as agents in reserve, to meet particular exigencies. If we are allowed to invoke the authority of French pathology, to the general correctness of which Dr Dewees has himself borne favourable testimony, we should neither exclude purging from the treatment of fever, nor would we admit it to be one of the primary and essential parts of the curative process, as is done in the work before us.

We do not see how tonics, fulfil our intentions in the cure of fever, in which we are told that an inflammatory state of the system prevails. It may be said that this class of remedies is necessary in intermittent fever; but here comes the evil of obscurity in definition, and confusion in the picture of the leading and essential phenomena of disease. Fever at its commencement, and during the period of its paroxysmal violence, requires no name other than what is obviously derived from the suffering organs. Its treatment is nearly uniform, whenever and wherever occurring. A crisis once obtained, and the paroxysm solved, light nutriment and tonics may be given in order to invigorate the body through the digestive and nutritive apparatus, and prevent it from being, in its present state of extreme debility, liable to a relapse; that is, to the morbid impressions of the same or similar agents to those which induced the first disease. No matter what name we may have affixed to the fever, the indication is precisely the same: viz. to withhold tonics until the crisis be complete; that is, until the stomach and bowels be free from phlogosis, and the heart and blood-vessels have, consequent on this freedom, lost their morbid sympathetic activity. In some forms of disease, as where the paroxysm is solved in the course of a few hours, we give tonics; but it is no longer in a fever, or to cure the fever, but to prevent its *return*. The plan is the same, and pursued for precisely identi-

cal reasons, whether we wait ten hours or ten days for the crisis. Intemperate haste in giving tonics will be injurious in either case, and prove a means of reproducing the very paroxysm which we wished to banish. Tonics do not then come within the list of remedies for fever properly so called, and as it is described by the author.

The directions for the employment of "cool air and drinks" are judicious. By cool the author means the temperature of 57° to 60° Fahr. and by cold that from 40° to 57° Fahr. The readiness with which the sensations of cold are produced in the patient will, he justly remarks, depend very much on the temperature of the body and activity of the arterial system at the time.

In treating of the means of relieving sickness of the stomach, a troublesome attendant on fever, the author does not adhere very closely to his pathological principles. He admits that this sickness points out a state of irritation of this organ, and he protests, in consequence, against the common practice of giving an emetic to cleanse out what is called a foul stomach. But in recommending cathartics of even "a moderately active kind" does he not keep up if not increase the existing irritation. Calomel in small or grain doses every hour is his first prescription, followed, if necessary, (that is if the bowels are not moved) by magnesia. This failing, the quantity of magnesia is to be increased and an enema resorted to. The distress still persisting, we are told to have recourse to "the direct application of such remedies as are known for their efficacy in such cases;" such as "small quantities at a time of pretty rich gum arabic water, (cold); milk and water in small quantities, that is, a table-spoonful every fifteen or twenty minutes; or we may use, with almost a certainty of success, the following more complicated but very successful julep." Notwithstanding this double affirmation of its excellence, we are ourselves by no means so confident of its powers. It is, we know, a favourite prescription with Dr Physick. The following is the formula:—

℞. Bi-carbon. sodæ ℥iss.
Pulv. gum arab. ℥ij.
Ol. menthæ gutt. iv.
Sacch. albæ ℥ij.
Aq. seltzer ℥iv.

Of this, a table-spoonful may be taken every half hour or hour, as the necessity may be more or less urgent. If the seltzer water

cannot be commanded, simple water will answer. The carbonated potass is often substituted for the soda, and where other indications warrant, a little laudanum may be added.

Should neither of these answer, we are directed to employ a third set of remedies, viz: to take a few ounces of blood from the region of the stomach by leeches, followed, if necessary, by a sinapism or a blister.

The natural comments on the above prescribed course of practice are, 1. That in the employment of means, of whatever kind, the simplest, if of admitted power or efficacy, ought to be first used. Simple drinks, in small quantities, and enemeta ought then to precede the other active, and from recognised theoretical grounds, doubtful remedy of purging. 2. Where we make up our mind to strong and decisive measures, they ought to be such as shall correspond with, or be a legitimate sequence of received principles. In the case before us, irritation of the stomach being admitted to exist, we are bound, without loss of time, or at least further delay than in using the first simple remedies, to have recourse to revulsive evacuation, by leeches to the epigastrium, and counter irritants, by a sinapism or blister; because these remedies, sanctioned by experience, are in accordance with our acknowledged theory of the disease. So that, supposing these two classes of remedies to fail, and we have never known them unsuccessful, the third, or doubtful, viz. purgatives, still remains as a dernier resource—on the strength of the received adage, *anceps remedium melius quam nullum.*

The remarks on "bleeding" are in the main judicious. "The cases of fever in which this mode of depletion is inadmissible, are so few, that we find almost a difficulty in pointing them out, at least in the commencement." Rather too much importance is, we conceive, attached by the author to the pulse, as an index of the quantity of blood to be abstracted. Substituting *an organ* for "the head" we like much better when he says, "But in cases in which the head is very much affected, it is for the most part a good rule to allow the blood to flow until relief is experienced. From this it will be perceived, that it is very difficult to direct the precise quantity of blood to be subtracted by any fixed number of ounces."

The directions given by the author, when "sweating" is desired, to have the skin at a proper or medium temperature, neither in the hot nor the cold stage, and the arterial action reduced by depletion, are worthy of our careful adoption. The antimonial preparations are re-

commended as most eligible when there is considerable vigour of the system. Opium is praised as a highly important drug, if there be but a moderate vigour of the pulse. When internal remedies fail to bring on a sweat, such external ones as the vapour of vinegar is at once among the simplest and most efficacious. "Our aim should be to produce a gentle transpiration, but not a profuse sweat."

With our present improved knowledge of the capillary system, and the part that it plays in fever, it has long struck us as a singular error to admit a class of sudorifics in our materia medica, or to look to sweating as an effect necessary to be obtained by specific means. Sweating we look upon as rather an incidental than a paramount or desirable occurrence. It is so often unproductive of any benefit that we can have no reliance on its curative operation, and we conceive that we have done enough in the way of preparing for it, if we have had recourse to the measures of general and local depletion, counter irritation, and equalizing temperature, by which the morbid activity of the capillaries or of the membranes through which they are distributed, is removed, and their secretory and exhaling functions restored. If the skin is hot and parched, or dry and cold, we have recourse to cold affusion in the first case, and warm bathing in the second—not to bring on sweat, but to reduce the organ to its proper temperature, and enable its vessels to perform aright their exhaling and absorbing functions. At any time, the effects of sweating will be mainly dependent on the condition of the digestive mucous surface. This inflamed, the discharge procured by diaphoretics will do no good; whereas, if by general remedies we remove this morbid condition, there will be a solution of the disease, whether we bring on sweating or not.

Of purging, the author remarks, that in fevers of almost every description, it is not only useful, but in many is indispensable. The chief reasons in favour of this advice, he thinks, are the constant existence of "a want of equilibrium in the circulatory system, whenever the body is attacked with fever, and the determination for the most part is to the brain, the liver, the spleen, or to the lungs; and few remedies," he continues, "are found so effectual in restoring this want of balance, as well chosen and properly adapted aperients. Besides the determinations just mentioned, fecal matter in the bowels is constantly accumulating, which it is of much consequence to remove. Occasionally there will be a redundancy of bile; at other

times a deficiency; and we are obliged sometimes to remove the one or to solicit the other; and both of these ends are answered by the proper choice and exhibition of cathartics of the aperient or laxative kind.

"251. Purges, besides cleaning the bowels of offensive matters, cause to be discharged into the bowels a considerable quantity of the fluids, natural to these parts, and thus serve the double purpose of removing their fecal contents, as well as evacuating from the general system. For effecting these purposes, however, some cathartics are much more valuable than others; consequently, there is a considerable choice."

"252. The management of cathartics must be regulated, 1st, by the state of the system in general, and of the bowels in particular; they are indicated when the system maintains its general vigour, and when the bowels are still loaded, or not sufficiently cleansed; the pulse will direct in the one instance, and the appearance of the evacuations in the other. The regular inspection, therefore, of these discharges is a matter of much moment, and should never be neglected by those who may have the care of the sick."

After perusing these paragraphs, we were not a little disappointed at finding no supplementary precautions against the employment of purgatives, in particular, and by no means uncommon, states of the stomach in fever. Not the slightest allusion is made to the appearance of the tongue, as indicative of the condition of the gastric and intestinal mucous surfaces, and consequently, of the propriety or mischief of purging. We confess ourselves entirely sceptical as to the soundness of the theory which recommends this process when the bile is in excess; that is, when the secretory vessels of the liver are irritated to unusual discharge; since, by so doing, we urge them to still further, and, as we conceive, unnecessary and injurious effort. A little attention to the phenomena of what are called bilious diseases, soon convinces us that the liver has most generally suffered in consequence either of the obstructed functions of the skin, or of undue excitement of the gastro-intestinal canal. Now, we are unable to see how purgatives should restore the secretions of the skin, or diminish the morbid excitement of the mucous surface, on which they necessarily act as an irritant. In those occasional ephemeral outpourings of bile which we meet with in the summer season, or at other times, after ingesta in excess or of too stimulating a nature, the liver is obviously irritated in consequence of the gastro-duodenal irritation, and recovers its regular action so soon as this latter state is removed. To accomplish this, simple

diluents and a pediluvium, or the warm bath, are all sufficient, without recourse to purgatives of any description. If they can thus be dispensed with on occasions of temporary irritation of the digestive mucous surface, and, to our certain knowledge, this is done with the greatest advantage, we are at a loss to find reasons for their administration in fevers, in which this surface is often in a state of high excitement, bordering on, and at times actually merged into inflammation. If, on the other hand, we ask ourselves, what is the real state of the liver in fever, in which it no longer secretes the bile, or does so very imperfectly, we shall be at no loss to reply that this organ is in the second stage of excitement, that in which the capillaries become turgid, and incapable, from indirect debility, of performing their secretory function. Experience teaches us, that in all these cases of vascular congestion and torpor consequent on prior excitement, irritants are of a doubtful, if not mischievous tendency. The alleged benefit from purgatives, that they "cause to be discharged into the bowels a considerable quantity of the fluids natural to these parts, and thus serve the double purpose of removing their fecal contents as well as evacuating from the general system," will often be grievously counterbalanced by the direct irritation of the intestinal surface, and accumulation of blood in the vessels of supply, those furnishing the fluid for secretion, so, as in fact, to increase the local plethora, though the general vascular system may be rendered less full. This is an effect to be deprecated, where the digestive apparatus is itself the seat of irritation, and the centre of afflux of blood, as in the case of most fevers; while, on the other hand, it will operate as a most salutary revulsion in certain affections of the head, chest and limbs; provided however that there be no decided gastro-intestinal irritation, or that this shall have passed into a chronic state. Dr Dewees does indeed make a distinction between the milder and drastic purgatives; and while recommending the former, proscribes the latter; but the entire practice is at variance with the admitted doctrine of gastro-intestinal irritation.

It was while professedly treating of the circumstances under which purgatives are useful or admissible, that the following remarks of the author, in a note (page 150) to the chapter on continued fever, should have been introduced.

"There is no practical error greater than the one that supposes there is a necessity for employing active purgatives in the treatment of fevers. As the bowels are sometimes tardy,

and as the relief, when this reluctance is overcome, is both striking and salutary, it has been imagined that the more certainly and speedily this could be effected, the better for the patient; hence the almost universal practice of the drastic purgatives, as calomel and jalap, senna, scammony, gamboge, &c. &c. Now let it be repeated, that in all fevers there is a constant liability (if it does not always exist) of the mucous membrane of the stomach and bowels to become inflamed; and consequently, that all irritating substances must be highly prejudicial to the condition of this very important surface. This is not a refinement in doctrine, nor an instance of pathological theorizing; it is a constant and valuable practical fact, and must never be lost sight of. The evidence of the mischievous effects of the drastic purgatives might be constantly observed, were practitioners as attentive to the phenomena presented by an inflamed or highly irritated mucus membrane as they should be. They might see the mucus of the intestines coming away in quantities, with little or no fecal matter, when the mucus membrane was only [in fact] severely irritated; this may be either marked with streaks, or accompanied by a greater or less quantity of blood; or when this coat is inflamed, they might witness profuse watery discharges; let either of these signs be a warning not to employ such active medicines, or to withhold every kind for a while."

Let us contrast this passage with that already quoted, in which the author says, that the pulse, as indicative of the general vigour of the system, and the appearance of the evacuations, will regulate us in the use of the cathartics. Now, as the active pulse is most common in the commencement of fevers, and when the irritation of the stomach and bowels is often of a most harassing and decided nature, we cannot receive it as evidence of the propriety of purging: it will, in conjunction with other symptoms, rather make us rely on sanguineous depletion and diluents. Next, as to the appearance of the evacuations: we can procure them of every kind and appearance by administering purgatives, and hence we cannot admit, as evidences of the propriety of a practice, appearances which may be created by the practice itself. Few symptoms are more insisted on as encouraging us to purge, than pure watery discharges and the absence of fecal matters; phenomena just admitted by the author, and as we believe with reason, to be the direct product of inflamed bowels, for which purgatives of any kind are, he says, inadmissible. We wish that he had laid more stress on the real guides in the employment of purgatives. They are the appearance of the tongue, the condition of the skin, and the sensations

experienced in the stomach, or the abdominal region generally. Thus, whatever may be the condition of the pulse and appearance of the evacuations, a red and shining or dry, furred tongue, hot and parched skin, and great thirst, and feeling of gastric heat and pain, will forbid our using purgatives.

The practice of *blistering* in fevers is next noticed. No remedy, as the author very justly observes, is more abused, because no one is so empirically prescribed.

"It is therefore important that the pulse be in a proper condition, that is, of very moderate force, at the time of their application, for if it be not in this reduced state, blisters will, like wine and other stimuli, but increase the state of the arterial action."

Here we have an instance of an oversight of modern pathology, and of the force of the old creed, in supposing the pulse to be the measure of the state of the suffering organs. Their excitement or phlogosis often bears no proportion to the activity of the circulation, as measured at the radial artery; and the former will occasionally be so decided as to forbid the application of blisters, whatever the latter may indicate to the contrary. In the study of the play of sympathies we obtain the best knowledge for the due employment of this remedy. Where these are numerous and active, we abstain; if they be few and imperfect, as where gastritis is accompanied by cold extremities, we apply the vesicatory to these latter. As a general rule, also, blisters to the arms will be found most useful in cases of thoracic disease; and those to the thighs or lower extremities of most avail in abdominal affections. Their real agency, as counter-irritants, that by which they prove in any case beneficial, is not adverted to in this part of the work.

The remarks on tonics are short but instructive. We select the following as conveying, with one exception, excellent precept.

"267. Against the too early administration of bark, we can hardly recommend too much caution; nor do we know how in adequate terms to warn against a popular delusion that has been the death of thousands. We here allude to certain symptoms common to most fevers, (when a little protracted, or when in their early stage, bleeding and purging have either been altogether neglected, or but inadequately performed,) such as a dry brown tongue, flushed face, quick pulse, red and scanty urine, dark offensive stools, dry skin, black lips, high delirium, drowsiness or stupor, trembling or unsteady action of the arms when about to be used, &c. These, with many practitioners, are looked upon as signs of typhus; and for the relief of which bark, wine, nay the whole list of stimulants,

are put into immediate and fatal requisition. Under such circumstances, with even a pretty decided remission, neither the bark nor any stimulant is proper."

We except to the implied opinion of the symptoms above enumerated, which are those of gastro-enteritis in the second stage, being the result in part of neglect of purging. We have so frequently, and in reference to direct personal experience, so feelingly observed a dry and parched tongue and skin, and a frequent pulse induced by the administration of purgatives, as well in that state vaguely called dyspepsia as in fever, that we are content, whenever the stomach is much interested, to rely on other and infinitely safer means of depletion and sedation. In regard to the use of tonics, we feel inclined to go still farther than Dr Dewees, and to proclaim them as not only hazardous and injurious in the conditions above mentioned, but as uncalled for during any period of fever, that is during the existence of any irritation of the gastro-intestinal surface and of the heart and brain. The crisis complete, and mere languor the only complaint, tonics may perchance be found serviceable. But if there was no such class in the materia medica, mankind would, we believe, have cause of rejoicing.

The next chapter is devoted to the subject of intermittent fever. The author describes this disease after the usual manner, and in common with systematic writers supposes it for the most part to arise from marsh miasm. Sceptical as we are of the entire soundness of this creed, we cannot for the present stop to examine it; but must pass on to the treatment of intermittent fever. It is rather singular, that, with the author's long experience, he should speak of the practice of giving laudanum on the approach of the cold fit, merely on the authority of Dr Trotter. He recommends in a more pointed manner blood-letting during the hot stage, not "as a remedy that of itself cures the disease," but "one that affords very immediate relief in both cases; and in all, where its use is justified by the pulse, shortens the hot and hastens the sweating stage; and moreover it prepares, in a very certain manner, the system for the exhibition of tonics. The importance of the last effect is of much moment, but we fear not sufficiently appreciated. Had this remedy been more frequently resorted to, we are of opinion that the duration of agues, with their melancholy suite, would have been much more rare." But while we regard the practice thus recommended as a good one, we cannot but think the indications

for having recourse to it are not laid down with adequate fullness. If we only bleed when there is headache and active and firm pulse, the guides furnished by the author, we narrow very much the sphere of usefulness of the operation. Our own experience, sustained by pathology, satisfies us that in all cases of marked irritation or phlogosis of the stomach, either alone or associated with that of the intestines, or liver, or lungs, the use of the lancet is called for, and its repetition demanded by a persistence of these organic derangements, without regard to the intermittent type of the disease, or waiting for a firm, or active, or chorded pulse. This latter we cannot but regard as of secondary value in our symptomatology. When, however, the circulation participates but little in the phlogosis of the organ, and there is much complaint of muscular weakness, and diminished activity of the senses and brain, then local blood-letting, as recommended by the author, "for pain in the side" is to be preferred.

Cough, so common in intermittent fevers, is of two kinds:—1. A slight tickling or mere irritation of the bronchial surface. 2. A short dry cough, associated with pain in the side. The first will gradually subside, in proportion as the irritation of the gastro-intestinal surface, of which it would seem to be one of the sympathies, abates. The second demands as vigorous a treatment as any other pleuritic cough. These remarks are applicable not merely to the first stage, but to the period of the interval.

We were not a little surprised at the entire omission, by Dr Dewees, of cold bathing in the account of the management of the hot fit. Few remedies are, we conceive, so clearly indicated, or so pleasant to the feelings of the patient, and so beneficial in arresting the disease as cold affusion; or, next to it, free sponging of the surface with cold water, employed at this time. Enemeta of the same are also very refreshing.

Among the means which by their immediate action prevent the febrile fit from returning, emetics and opium are the only ones deemed worthy of notice. We wish sincerely that the author had placed in the text the precautionary remarks respecting vomiting which are thrown into a note. Occasionally he overlooks "the most modern and approved pathology of fevers;" and at other times, as in the present instance, he attempts a rather awkward compromise between it and old doctrines, usually at the expense of the former. In place of making the administration of an emetic a rule in such

cases, it ought to be an exception marked by the nicest distinctions. Not a word is said in the body of the work about any particular state of the stomach, but only of headach, red eyes and delirium, as contra-indicating recourse to a vomit. If all allusion to the practice were avoided, so that it should be considered obsolete, and of doubtful or even injurious effect, we are persuaded that patients with intermittent fever, escaping the irritation of the stomach induced by vomiting, would be sooner cured of their fever, and suffer less afterwards from dyspepsia.

Of the other means of preventing the return of the fit, by making an impression during the interval, the Peruvian bark and its various preparations, take the first place. The sulphate of quinine (quinia) is preferred by the author as "equally certain, to say the least," and "unquestionably much more acceptable to the palate and to the stomach." For ourselves, we cannot profess such unlimited confidence in this salt, as to think its virtues equal to all the other principles with which its alkaline base, the quinia, is combined in the bark. Its other advantages are, however, so evident, that it must always, in a great measure, take the place of this latter.

The following remark justifies our favourable opinion of the superior efficacy of the bark, at the same time that it is adverse to the recommendation of the author himself, in the preceding page, to entirely abandon this latter in favour of the sulphate of quinia. "We have been much in the habit of late of employing Wetherill's extract of bark. This preparation contains the quinine in the state of a super-sulphate, combined with the whole of the extractive matter of the circhona. It is more certain in arresting the paroxysms than the sulphate of quinine, if our observations have not grossly deceived us; and the disposition to the recurrence of them seems to be much lessened.

"289. It is usually prescribed in doses of one grain, in the form of a pill; one is given every hour, while [the patient is] free from fever."

Little stress is laid on substitutes for the bark derived from the vegetable kingdom. The one which in the opinion of Dr Dewees approaches nearest to it, is cascarilla bark, (cortex eleutheria). "In some cases, as in those which may be accompanied by cough and purulent expectoration from the lungs, it has a decided advantage over bark in any form," for the simple reason, it seems to us, that it is weaker, and hence calculated to do less mischief in this condition of the system, to which no medicine of the class is adapted.

Arsenic is declared by the author to be much and justly extolled for the cure of intermittents. Of the first part of this assertion our common medical books furnish ample testimony; but the latter is by no means so clearly made out. The only objection which Dr D. believes "can be urged against it, is that it is a medicine of most deadly power when improperly used." Now, though we are, ourselves, by no means timid in selecting potent therapeutical agents, we do think that this objection is of a very formidable character, the more so as we believe that arsenic is improperly used in the larger number of cases in which it is administered. We can have no guarantee against its pernicious effects, in whatever manner we prescribe it, so eminently adverse is it to the healthy discharge of the functions of the animal economy. If given in a full dose it at once produces acute gastritis. Administered in small and repeated doses, it will often for a time be productive of no marked effect, and give neither the patient nor physician any premonition of danger, until chronic gastritis is fully established, and obstinately maintains itself in place of the chills, which it is alleged to have removed. At other times œdematous swellings of the lower extremities, and effusions in the peritoneal sac, accompanied with torpid liver, are some of the recognized consequences of the arsenical practice. If the physician do his duty in removing the gastro-intestinal or gastro-hepatic irritation in intermittent fever, he will have but little trouble in checking the periodical return of the remoter sympathies which constitute the fit; and this success may be obtained without hazardous medication, or levying on all the discoveries of chemists, or the dreams and vagaries of popular ignorance*.

We deem it needless to follow the author in his observations on the risk and causes of relapse in this fever. But, although presenting no claims to novelty, they merit the attention of the reader of the work itself. The insisting on a perseverance in the ditetic course during the interval, as well as the paroxysm, until the latter has ceased to return, is, we conceive, a point well urged. As a matter of course, mercury is recommended when visceral obstructions exist. Of the efficacy of this practice we are becoming every year less sanguine. Nor do we deem it a whit more useful or

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* The general coincidence between our own opinions and those of Dr Bell, on the nature and treatment of intermittent fever, allows us to refer with some confidence to his essay on the subject in the eighth volume of this Journal.

commendable when adopted in the manner prescribed by the author, viz: as an "auxiliary to the tonics, which must now be substituted for the bark: such as Fowler's solution; sulphate of zinc; sulphate of copper; the decoction of cascarilla (cortex eleutheria), &c.; for we must suspend the bark, as we are persuaded it is an improper remedy under such circumstances." The same denunciation, we think, applies with equal force to all the tonics just enumerated.

The chapter on Remittent Fevers strikes us as containing in a small space, sounder views of the disease, and a clearer and more efficient method of treating it, than is to be found in any work extant. The strong local determinations of blood to the stomach, head and liver, and often inflammation of these parts; the necessity of prompt and decisive measures; warning against emetics; urging the use of the lancet, and topical depletion from the epigastric region; the doubtful efficacy of opium, and its tendency to cause stupor and even apoplexy, so long as there remains phlogosis of the stomach or brain, and a marked irregularity in the distribution of the temperature of the skin; the recourse in such cases to cold applications to the heated parts, either by spunging or a bladder of cold water; a few leeches to the temples or epigastrium; mild evacuations from the bowels; free ventilation of the room, are all capital points in the argument, clearly and forcibly displayed. Take the following as an example: "It may be well to remark here that in remittents of very active stages, the utmost advantage is derived from carefully watching the exacerbations, and by never suffering a paroxysm to pass without the abstraction of blood, so long as the pulse is active, the face much flushed, the skin very hot, the headache severe."

Some doubts may, however, be reasonably entertained by the advocates of the physiological school, of the imperative necessity of prompt and free evacuations of the bowels in remittent fever after the patient has been bled. The means recommended by the author are, a small dose of calomel (six grains), to be followed in two hours by an ounce of castor oil; the latter to be repeated if necessary in two or three hours; or Epsom salts and calcined magnesia, or the oil alone may at times suffice. The necessity for the use of the nitro-antimonial powders, or the neutral mixture in that excited state of the system not quite removed by bleeding, or hardly calling for the operation, may also, considering the state of the stomach at the time, be doubted. But on this point, practice and hypothesis, we may say theory, are not so well agreed as in the case of emetics,

active purgatives, and the more avowedly stimulating diaphoretics; the use of all of which the discerning practitioner may well forego in remittent fever.

In the following chapter, on Yellow Fever, Dr Dewees adduces considerations by which he thinks we are warranted in the conclusion, that it is not an exalted form of bilious remittent, nor one and the same disease with this latter. "At present we treat the two pretty much after the same manner; differing more in the rigour of application than in the routine and nature of the agents employed." Into an analysis of the history and treatment of the yellow fever, as furnished in the work before us, we cannot at present enter. We are approaching the boundary of our article, and must forthwith bring our remarks to a close. The fact of the author never having satisfied himself that there is good grounds for drawing a distinction between the continued and remittent fever, justifies our passing over his notice of the former, which, after such an avowal, must necessarily be somewhat forced and artificial. His acknowledgement, also, of the impropriety of the term *typhus form* of continued fever, must serve as judgment against him for having introduced it as the heading of more than fourteen pages of remarks, not indeed without value or pertinency of application. The most important position which he lays down, is an inflammatory state of the system to a greater or less extent in this form of fever, calling for the use of the lancet or other depletory means. When these are neglected, the system will be still farther prostrated; and yet tonics and stimulants are still, he explicitly declares, not only inadmissible, but destructive. He points out the error in mistaking the state of pulse accompanying this disease for a pulse of debility. But we may give up the pulse, and in the state of the brain and senses, the heat of the skin, dry furred tongue and thirst, and tenderness of some part of the abdomen, we shall have evidence enough of phlogosis, to justify the above view of the pathology of the typhus form of fever as well as to direct a corresponding treatment.

A deference or compliment, perhaps an unnecessary one, is paid by Dr Dewees to European writers, in devoting the next chapter, consisting mainly of their accounts, to typhus; a disease which he acknowledges he never witnessed. We do not by any means join him in his eulogy of the views of Dr Bancroft on this head. The work of Dr B. shows too many lapses of common, not to say medical logic, for us to yield our confidence to his opinions. The author from

whom Dr D. has most largely borrowed on this occasion is Dr BURNE, in his *Treatise on the Typhus or Adynamic Fever.*

Our farther notice of the contents of this volume must be restricted, for the present, to the excellent chapter on Diseases of the Eyes. Without any disparagement to the other parts of the work, we must say, that this reflects great credit on its author, Dr HAYS, to whom Dr DEWEES acknowledges himself indebted on this occasion. A history of the anatomical and physiological characters of each tissue of the eye precedes the description of its morbid conditions or "pathological characters;" so that the healthy and diseased appearances are presented in suitable relief and contrast, and the physician is thus enabled to form a satisfactory diagnosis. The details of the treatment of inflammation of the conjunctiva, sclerotica, and cornea, are presented in an exceedingly lucid and satisfactory manner, evincing much reading and practical knowledge on the part of Dr HAYS.* We wish that an account of iritis had been added to the present chapter. This is a disease of violence, respecting which many misconceptions most detrimental to the patient are apt to be entertained by practitioners, who have not given any attention to ophthalmology.

Among the peculiarities of the work before us, are translations of the recipes, and a glossary. We are sorry to see so indifferent a compliment paid to the members of the medical profession, as to suppose that any one of them should require an explanation of terms with which he is presumed, of necessity, to be familiar; constituting, as this knowledge does, the very elements of the science to which he has devoted himself. To suppose ignorance in this, ought to be equivalent to a belief of incapability to appreciate, or be benefitted by any disquisition on disease; for the two, as in the case of the general reader who is not a medical man, must go together.

Throughout the whole course of our analysis of the work of Dr DEWEES, we have been duly attentive to his claims to our regard and respect, grounded, as they justly are, on his age, experience, and industrious habits of observation. If we have seemed at any time

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* What has become of the Pennsylvania Infirmary for the Diseases of the Eye and Ear? It was, we know, regularly incorporated by the legislature some years ago.

to be backward in our eulogies, or occasionally pointed in our criticism, the author, himself a teacher and a critic, will duly appreciate our motives, and approve of our adhering to science, rather than the words of the master.

ARTICLE VIII.—*A Treatise on Hysteria. By* GEORGE TATE, *Member of the Royal College of Surgeons in London. London*, 1830. *Pp.* 134, 8*vo.*

The preface to this book is dated at Circencester, in Dec. 1829. We do not know any thing of Mr GEORGE TATE, except what we have found in his book; what therefore are or have been his opportunities of acquiring knowledge, what his industry, or his professional standing, we have no present means of knowing, saving in so much as we may *guess*, to use an Americanism, from this sample.

In making reviews, it is not uncommonly thought highly important and becoming to touch with a pianissimo hand the views of the author, in every case where his opinions happen not to chime exactly with the scale of our own orthodoxy, and, on the contrary, to set forth our own opinions in the most fair and inviting aspect, unless indeed we deem ourselves, no uncommon deeming, warranted in enforcing our own sentiments authoritatively, and with a nod. Some people never think it necessary to argue: many reviewers are indeed a sort of sub-Jupiters. A different course will be pursued on the present occasion.

Mr GEORGE TATE has presented us in the present work with some observations on hysteria, which, in the peculiar connexion in which he has exhibited them, have certainly an air of novelty. He tells of a successful mode of managing this disease, relates many cases of a very serious character which he cured, being guided all the time by his peculiar views; and very fairly tries to make his art common property to the professional world.

Now, a man may, for the sake of acquiring professional distinction, or to answer some private end, cajole us with facts that never happened; teach us an art of curing that never did nor never will cure; but when he lays before us his reasons, when he comes to philoso-

phize with us, then we are as good reasoners as he, and as good philosophers too.

Let us then, upon the above considerations, give Mr TATE a hearing, and if we find that his doctrines are not bad, and his practice, founded on those doctrines, rational and successful, let us give him the credit of having very usefully contributed his mite to advance, in his day and generation, the interests of medicine, by arming it with new means of usefulness. In the following pages, therefore, which contain a general analysis of the Treatise on Hysteria, we intend pretty much to let the author speak for himself and as our readers are not incapable of judging as well as we can judge for them, we shall consider our duty as being fully performed in presenting the case before them to decide upon, every man according to the dictates of his own judgment.

Mr TATE remarks that it has been long a matter of surprise that there is no work which can be called a satisfactory treatise on the various forms of hysteria, none in which an attempt has been made to trace the cause of this disorder, nor any to which the practitioner can refer with the prospect of obtaining useful information.

The reasons for this he conceives are—first, hysteria has been from time immemorial looked upon as a very trifling affair, made up of nervousness, fancifulness and imbecility; secondly, except in the common form called "hysterics," the characters assumed by it are so various as to have hitherto defied any regular classification; and further, its pathological conditions have been very little, if at all understood. Mr TATE does not hope to divest the subject of its perplexity, but he does hope to separate such facts as are authenticated by his own experience and observation, from the indigested mass of fiction and error with which the disease has been long obscured, and to relate what he conceives to be its causes, appearances, symptoms and treatment.

In his first chapter he observes, that hysteria, with a few exceptions, real or affected, whether mild or obstinate, has "one common cause, which is essential to its appearance—namely, a defective menstruation." Since Mr T. has been attending to the disease, he has never seen one case, with the exception of those which occur in "the refined circles," occasioned by caprice or sudden impulse, not one case, either of a simple or complex character, in which there did not co-exist distinct traces of a faulty menstruation.

There is always some deficiency or depravity of this secretion; it

will be found sometimes altogether suspended, sometimes redundant, sometimes dark and grumous, at others pale and watery; and sometimes attended with agonizing pain and sickness. Hysteria may occur before the appearance of the catamenia, or after its cessation. "The common conditions, however, under which it prevails, are catamenial suppression, insufficiency, or depravity." He hence takes it to be a justifiable conclusion, that this is its fundamental cause, and that our remedial means ought to be more generally directed to that cause than has been the practice hitherto.

He admits that this view of the subject is at variance with those that are entertained by many. Some actually maintaining that the uterus and its conditions have no share in the production of hysteria, but that the male equally with the female is liable to its attacks. "I will not positively deny this," he observes, "because, although I have never seen such a case myself, it would be presumption to say that others have not." He thinks it more than probable, however, that the cases of supposed hysteria in men, were really cases of chorea, as he attempts to prove that many of the instances of supposed chorea in women were really hysteria. According to the author, debility produced by, or at least combined with a diseased state of the stomach, liver, or bowels, certainly predisposes to hysteria; and delicate females being more easily excited, are hence more susceptible to it than the robust; but he adds, hysteria is not confined to females of a delicate constitution; it attacks the most hardy and the most healthy.

Mr T. has described many cases as hysteria to which other writers would have affixed different names; but looking to their common origin and to the organs chiefly concerned in their production, he has preferred to avoid all other names, and has classed them under one term, dividing them only into first, second, and third degrees.

Hysteria of the first degree, or the common form of hysteria, occurs almost invariably between the ages of thirteen and forty-five, and is always attended with some irregularity of the menstrual function; and the stomach, liver, and bowels are generally found to be disordered. It is characterized by alternate fits of laughing and weeping, starting and screaming; lying still as death, and struggling with gigantic strength. Generally there is rumbling of the bowels and globus hystericus, which is produced by flatulence, and occasions a sensation in the throat of impending suffocation.

In the treatment of this kind of hysteria, Mr T. regards the first

object to be the evacuation of the bowels, which is best effected by calomel combined with jalap, and followed by a dose of castor oil. In a majority of cases, he says, a brisk action of the bowels will be attended with immediate relief of the paroxysm, which will rarely return if the subsequent treatment be judicious. This consists in avoiding stimulants, in living on a bland nutritious diet, and in regulating the alvine and uterine secretions, by a prudent perseverance in the use of aloes, combined with iron and some aromatic oil. A treatment under which he avers, that girls who had for years been deprived of their natural health, with sallow and sickly faces, parched and pallid lips, furred tongues and emaciated frames, have had their health, strength, and beauty restored.

Hysteria of the second degree he regards as of much more serious consequence, vastly more insidious, and more likely to lead to a misapprehension of its real nature than the foregoing, or first degree; all which circumstances depend on the great variety of shapes it assumes, and the formidable diseases it simulates. Like the first kind, it generally arises suddenly, and with the same singular and alarming symptoms, which occasions a hasty call for medical assistance. Great caution is necessary in such instances to avoid mistaking the hysteria for an active inflammation or other disease of some internal organ; a mistake which he conceives might occasion the practitioner to do more harm than all his subsequent treatment could remedy or repair.

In hysteria of the second degree, the catamenial discharge is always more or less deranged, and this has generally been the case some months prior to the attack. This derangement constitutes the "head and front" of the case; the original cause of the disease, that upon which all the other symptoms are more or less dependent.

The most important circumstance, however, whether in regard to the discrimination of the case or its treatment, is, that in every instance pain is experienced upon the application of pressure or of heat to three or four of the superior dorsal vertebræ. This is a point upon which Mr Tate wishes *to fix* the reader's attention; for, according to his views, this spinal affection, whatever may be its exact nature, is clearly chargeable with the production of most of the curious and fantastic forms that hysteria is accustomed to put on. In other parts of the spine, especially in the lumbar vertebræ, pain is frequently complained of for a long time; but in the dorsal division no uneasiness is generally felt until pressure is applied.

Commencing with pressure at the uppermost cervical vertebra, and proceeding gradually downwards, the patient will smile at the inquiry "if the contact of the fingers hurts her," until we come to the dorsal vertebræ, when her countenance will immediately betray her, and she will shrink from the touch, confessing that the pressure causes a pain, frequently, but not always, shooting through to the chest on one or other side, sometimes on both, and oppressing her respiration. He does not wish to be understood that this pain is always present to the same extent. Sometimes the vertebræ are extremely tender, even upon the lightest pressure or the least heat; and at others, they bear a moderate degree of both without much suffering: but the pain is invariably present in a greater or less degree, bearing some proportion generally to the violence of the hysterical phenomena; and leaving an aching or soreness in the part for some time after the fingers have been removed.

The author does not occupy the reader's time with any discussion or hypothesis concerning the state of the spinal marrow and of its membranes in this affection. He fearlessly asserts, however, that in no severe or protracted case of hysteria is this pain entirely absent under the circumstances referred to. He has little doubt, however, that, by a more extended investigation, all the fallacious symptoms and sensations which mark the anomalous forms of hysteria will be found to arise from a high state of excitement in the upper dorsal portion of the spinal marrow, and having an intimate connexion with the morbid condition of the uterine functions. On the question as to the nature of the exact morbid lesion under which the spinal marrow labours in these cases—whether this excitement, as he terms it, be merely irritation, or whether it consist of something more, he does not hazard a conjecture. Another circumstance to be attended to, according to our author, as a diagnostic symptom, is, *pain in the left side;* it is of the gnawing kind, generally circumscribed, and mostly situated below the left breast, in a hollow formed between the cartilages of the fifth and sixth, or sixth and seventh ribs. Occasionally it is very acute, producing a sensation as though a knife were being thrust into the part. This pain is complained of for some time before the invasion of the hysteria. The patient is often seen to incline the upper part of the body to that side, dropping the left shoulder in order to relax the painful part, and in this manner obtain some relief. Mr T. is of opinion that the pain is actually seated in the intercostal nerve, though he

has sometimes thought it to be in the nerves of the part itself. It is most generally experienced in the left side; sometimes, though rarely, in the right. If the disease has been of long standing, causing the body to lean constantly out of the perpendicular line, it is easy to mistake the effect for the cause. And when other symptoms supervene, the physician must be cautious not to conclude that the curvature has produced the morbid phenomena under which the patient suffers.

Palpitation being almost universally present, and often distressingly violent, Mr T. conceives it to be another diagnostic symptom in hysteria. There is always pain of the head, in front or in the occiput, or in both; intolerance of light, which is sometimes so great that the patient is easy only in absolute darkness; and generally more or less globus hystericus.

Such are the symptoms which denote hysteria of the second degree. They are almost invariably combined in every case; and in the great majority are accompanied by pain or aching in the arms and legs, and across the loins, furred tongue, constipated bowels and dyspnœa. The pulse is sometimes quick, variable, or intermitting, and at others perfectly natural. However difficult it may be to recognise some cases of hysteria when accompanied with a host of extravagant symptoms, it is conceived that the practitioner can in general hardly fail, by an accurate examination, to come to a right conclusion; and having done so, the mode of treatment Mr T. believes to be plain and easy, and very rarely unsuccessful.

In this form of the disease, the first thing to be attended to is to remove the immediate cause of the hysterical phenomena, namely, the spinal affection; the second, is to restore the uterine and other secretions to a state of health and vigour. When the patient is very robust, the cheeks highly flushed, the eyes injected, the forehead red and polished, it may be useful to abstract blood. Bleeding, however, Mr T. has found rarely to do good; and never to relieve the immediate attack; while in delicate females it is absolutely injurious, by prolonging the spasm. He lays it down, therefore, as a general rule, that venesection should not be performed without some *very substantial reason.*

The seat of the pain having been ascertained by a careful examination of the spine, the tartar emetic should be applied either by friction or plaster to the spot. If the symptoms are urgent, the application should be made along the whole course of the vertebræ,

and repeated every six or seven hours until pustulation is developed. The hysterical symptoms will now begin to yield, and the patient become calm and rational; but we are informed, that as the cause of the spinal disease, viz. the faulty uterine function, may still exist, it is sometimes necessary to produce repeated pustulation in order to secure the patient from a recurrence of the hysteria. In the meantime every exertion must be made to improve the condition of the uterine organs. The good effects of the pustular eruption are to be attributed, it is presumed, to counter-irritation; our author conceives it, however, to be very singular that this eruption should be followed by such decided effects, after leeches, blisters, cupping, and the like means have failed to exert any influence over the disease. Such, however, he asserts to be the fact; its modus operandi is of minor consideration.

In addition to the ointment, active catharsis will be necessary. Calomel, combined with jalap and castor oil, will generally effect this object. The evacuations are, at first, sometimes very black and of an unhealthy appearance; the above remedies must be repeated daily until natural dejections are procured. Objections have been urged against the use of calomel in this affection, and Mr T. administers it with great caution in cases where the countenance is pale and sickly and of a languid expression; with tumid and spongy gums, a clammy and tremulous tongue, red at its edges, and a tainted breath: but in patients, and they are many, having no apparent debility or laxity of fibre, he conceives there can be no danger in using it as freely as in other diseases.

Having removed the immediate attack, the next important indication in the treatment is to re-establish a healthy and vigorous menstruation. Mr T. believes that the disorder of this important function may be of several kinds. It may consist in its entire suppression; in its being before or beyond the usual period; in the discharge being of a dark and grumous or of a very pale colour; in its being too copious or too small in quantity, or attended with excruciating pain. He finds it, therefore, impossible to lay down any rule of treatment universally applicable. Each variety must be managed according to the discretion of the practitioner, by remedies adapted to improve the secretions and to restore the digestive organs to a state of health. This being effected, wholesome air, food, and exercise, with the preparations of iron, and the use of the warm, tepid,

cold, or shower bath, according to circumstances, will be, in general, the tonics best adapted to restore the patient's strength.

Hysteria of the third degree.—The author has heretofore only treated of those hysterical affections which, from their great variety, and their simulating other complaints, are sometimes difficult to identify, but which, under a well regulated management, are not of very tedious duration. He comes next to the consideration of a more aggravated form of hysteria, possessing, however, no substantial difference from those already treated of, except so far as relates to its duration. This form is made up of the same materials; occurs under the same peculiar circumstances, and is curable, when curable at all, by much the same kind of measures as the former. A deranged state of the uterine functions is the forerunner and *sine qua non* of both; but in the former varieties, the disease commences suddenly by some violent and alarming symptom; while in that now under consideration it usually steals on by slow degrees, until the patient either sinks into a state of deplorable debility, or symptoms supervene similar to those already described. Mr T. warns us from supposing that because convulsions are absent, the case cannot be hysterical; unfortunately for the poor female, this is its very worst form; for, being masked, it is more liable to be mistaken. Besides, it does not follow, because convulsions often accompany hysteria, that it cannot occur without them; they are not, the author conceives, one of the essential features of the disease;—these are deranged menstruation, and spinal irritation; in consequence of the presence of which the whole system is in disorder.

As there is no regular set of symptoms universally present in hysteria of the third degree, Dr T. contents himself by giving a general description as follows:

"In the more tedious forms of the disease, menstruation is always more or less faulty, and, as the case advances, becomes altogether suppressed, or deficient in quantity, and attended with great pain. In a short time the patient becomes weak and desponding; she loses her appetite, and the bloom abandons her cheeks. She still complains of no particular disease, and generally keeps her flesh. If a physician be called in, he will find her with a tremulous and moist tongue, foul at the root, and having the papillæ enlarged, with a tainted breath, depraved taste, and little or no appetite; a weak, languid pulse; a sickly, yellowish complexion; black or clay-coloured alvine excretions, and high coloured and scanty urine. Very soon there occurs pain under the left breast, increased by a

deep inspiration, and by reclining on that side; sometimes pain in the right side, palpitations, flutterings, sinkings, and pain upon pressure in one or more parts of the spine; either in three or four of the upper dorsal vertebræ, or in the lumbar; and if the case be protracted, it may also extend to the summit of the cervical portion. In such instances the headache is intolerable, being continued in some, in others intermittent. The pain often extends down the arms and into the legs; the extremities are generally clammy and cold. As the disease advances, a number of anomalous pains of a neuralgic character become associated with the other symptoms. This state of things will frequently continue for eighteen months before any particular notice is taken of it by the patient or her friends; but finally medical advice is resorted to, and the patient is declared to be dyspeptic, or hypochondriac, or nervous; but if judiciously treated will gradually recover her health."

We shall not carry our examination of Mr TATE's book any farther at present, than to present our readers with two or three cases as samples of his practice. These will serve as well as a lengthened analysis to make them acquainted with all that it is really needful to know about this work. The first is a case of hysteria of the second degree.

Case 1.—Miss W. aged 15, had for a few days complained of headache and loss of appetite; on Sunday morning, April 1826, she awoke after a tranquil night, labouring under a train of symptoms resembling tetanus. When the author saw her she was lying upon her head and heels, her back being thrown into an arch; her arms were flexed and rotated inwards, her fingers violently closed, grasping her thumbs, which were stuck into the palms of the hands in the way frequently observed in hydrocephalic children. Her toes were bent inwards, and her legs flexed and twisted in the same manner as her arms. It was with great difficulty that her hands could be forced open. But the attempt did not appear much to annoy her. She was perfectly sensible, and complained of violent heat and pain in her head. She could not bear the light. Her respiration was short, and she complained of pain in the side with palpitation. Her pulse was 110; tongue clean; skin hot but covered with moisture. She was thirsty, and said her mouth was dry. Her general health had previously been good. She had never menstruated. Believing from the symptoms, that it was a strange form of hysteria, Mr T. proceeded to examine the spine; the moment pressure was made between the scapulæ upon the dorsal vertebræ she complained of

pain; he was now fully convinced of the nature of the case. Frictions with tartar emetic ointment were immediately directed throughout the dorsal region, together with a dose of calomel and jalap. The bowels being freely evacuated, her head became relieved, and respiration was more full; the spasmodic, or rather tetanic affection, still, however, continued. In about thirty-six hours the antimonial ointment produced eruptions; the muscles now gradually relaxed, and in less than twenty-four hours after pustulation was produced not a vestige of the disorder remained. The contractions returned once or twice in a slight degree, in the course of the following month. On one occasion contraction of the fingers lasted for several days; a second application of the ointment being made, she had afterwards no return of any of the symptoms. During the whole of this time aloetics with iron were daily administered; and at the expiration of five weeks from the accession of her illness, she menstruated regularly and was quite well.

Case 2.—Elizabeth M. aged 20. The author found this female in bed, and several persons employed in keeping her there by main force. She had complained for some days of headache; was of a pale delicate complexion, and very slender frame, and had been for many months without any uterine evacuation. She had waked in the night, screaming out like a maniac, and in attempting to get out of bed fell back insensible. Her eyes were staring wildly; her teeth grinding; her hands clenched, and every muscle of the body seemed to be thrown into a state of the most violent spasm. Mr T. had no difficulty in deciding the case to be one of hysteria. Her pulse being rapid and bounding, some blood was drawn, but without relief. A dose of calomel and jalap was with some difficulty administered; by this, copious evacuations from the bowels were produced. The patient became calm, and the convulsions ceased; but the insensibility was unabated, and she lay as if dead until the middle of the following day. The tartar emetic ointment had already been applied, and when the patient was sufficiently sensible to answer, Mr T. traced the spine, and she complained of pain when pressure was made upon the dorsal vertebræ. The pain was felt through the chest, particularly at a spot beneath the left breast; extreme tenderness in the right side under the margin of the ribs was also complained of; this was so great that she dreaded the slightest examination. The pain was confined to the hepatic region, but was too acute and too superficial to induce a suspicion that it was connected

with visceral disease. It was produced, as well as that of the other side, by the spinal disease; as soon as the latter was relieved by the application of the ointment, and the menses were restored by a combination of iron and aloes, she recovered, completely, her health.

Case of hysteria of the third degree.—Miss —— became a patient of the author in March 1825, after an illness of ten years standing. Her menses occurred at the age of fifteen, soon after which her illness took place; it commenced with a total suppression of the catamenia, supposed at the time to result from cold. When Mr Tate saw her she could with difficulty walk across the room; her complexion was sallow, her lips bloodless, pulse small and quick, tongue moist and loaded with a thick, yellowish brown secretion, bowels torpid, dejections of various hues, but always unhealthy, the urine uniformly clear and straw-coloured. There was a fixed and lancinating pain in the hollow between the cartilages of the fifth and sixth ribs of the left side, pain under the margins of the ribs of the right side, difficulty of breathing, violent palpitations, and almost constant headache. There was pain upon pressure throughout the cervical and dorsal vertebræ; pressure between the shoulders aggravated the dyspnœa. She was occasionally seized with uncontrollable vomiting, lasting for seven or eight days, during which time not a spoonful of cold water could be retained on the stomach; these attacks were ultimately tranquillized by opiate suppositories, leaving her strength completely prostrate. She had not menstruated since the beginning of her illness. Upon examination it was found that there existed a morbid tenderness of the whole vertebral column. Owing to her extreme weakness it was determined to wait patiently until her strength was somewhat recruited before entering upon the appropriate treatment. She continued to fluctuate from better to worse, with occasional hysterical fits; at length the tartar emetic ointment was applied on the vertebræ. She experienced great distress; which being unfortunately attributed to the effect of the application, she could never again be prevailed on to allow of its use. Mild aperients were directed to regulate the bowels, and cold evaporating lotions to the head; she gradually gained strength. As the latter improved, the carbonate of iron was tried, the pain between the fifth and sixth ribs being considered as neuralgic; although exhibited with all possible caution, it produced much sickness, and was discontinued. After this the author saw her occasionally with another physician; a small eschar was produced over the seat of pain, but

to no purpose. After a short interval, the carbonate of iron was again administered; it now excited no uneasiness in the stomach, and the quantity was increased by slow degrees from a scruple to half an ounce three times a day. Under this plan she improved very fast. About this time she removed her residence, and became the patient of an eminent surgeon, who bled her once every fortnight for near a year, but had ceased the bleedings for some weeks before the author again saw her; her pulse was now irregular, with violent palpitations of the heart, œdema of the legs, cold extremities, shortness of breath, and a countenance indicative of exhaustion and distress; the left breast and the muscles on the side of the chest wasted; she was entreated to abandon "such life destroying treatment," and to take wholesome food, and as much exercise as her strength would permit; to leave off medicines, with the exception of "a tonic aperient pill," to use the shower bath twice, and the warm hip bath three times a week. Under this treatment her health improved, but the wasting and numbness of her left breast and side made gradual progress.

It must be confessed, says our author, that this was a prolonged and established disease, resulting from original error, and a continued series of mal-practice. It is his opinion that if the treatment which he pursued in the preceding cases had been persevered in, this lady might have been restored to perfect health.

Many similar cases are related, all tending to establish the correctness of the author's views. Mr Tate observes that there are other forms of hysteria which should not be overlooked. It is not uncommon for it to assume all the phenomena of pregnancy; the catamenia suppressed, the breast becoming tumid and painful, the abdomen enlarging, with sickness and pain in the back; it requires a keen discrimination to be satisfied that in such cases the lady has not actually a fœtus in utero. It will, however, be found that the menses had long been irregular before their entire suppression, that the enlargment of the abdomen is not uniform but varying, while other hysterical symptoms are present. But in some instances, even where the lady's character is such as to bar all suspicion, nothing but time can render us perfectly certain. In these instances a long course of aloetics will restore the abdomen to its natural proportions. Of what this engorgement consists the author is perfectly ignorant.

Dropsy is not a very rare occurrence in hysterical females, but

there is often tumefaction of the abdomen, with a deceptive feeling of fluctuation, which may lead to improper practice; it has even induced surgeons of talent and experience to resort to the trocar, but to their surprise on withdrawing the stilet no fluid escaped; death of course followed.

The author conceives that sufficient has been written, without further examples, to sustain the importance of the subject, and to lead practitioners to a more correct knowledge of the nature of hysteria, than is generally acquired until after years of bad practice, ill-success and harassing anxieties. Its proper treatment is simple and successful, and what the practitioner cannot himself perform, nature will for him; so that having ascertained the identity of the disease, he may be assured of its result. Hence the diagnosis is of greater importance than the treatment; the difficulty consists in penetrating the disguises hysteria often assumes, and in recognizing the actual character of the case; without which the physician will run great risk of injuring his patient by an empirical practice. To point out a correct diagnosis in this disease is the object of the present essay, and the author trusts that it will be found calculated to effect this important end. We have the same trust; and as public journalists, we take this occasion to return him our hearty thanks for the pains he has taken to shed a new light on an obscure and much neglected topic! We will not say that we can comprehend how a temporary and evanescent irritation of the spinal marrow can occasion a soreness when the spinous processes of the vertebræ are pressed upon. Mr T. however informs us that such is the fact; let every one satisfy himself on the subject. If a journal should wait until all new suggestions or discoveries received the sanction of general experience, it would hardly be entitled to the name of a contemporary journal. It would be a journal of the last quarter of a century; its novelties would be obsolete; it would pay off the arrearages of science, but would not keep open an account current with the daily advance of knowledge.

Original Communications.

ARTICLE IX.—*Observations upon the connexion between External Scrofula and Pulmonary Consumption. By* JOSEPH PARRISH, M.D.

In almost every disease we observe, at some period of its progress, an effort of nature to effect a cure. I am a full believer in the existence of a principle in the human system—call it the *vis medicatrix naturæ*, or by whatever other name you please—the office of which is to protect the body against the influence of morbific causes, and to repair the injuries which it has been unable to prevent. The surgeon has opportunities every day of witnessing the operation of this principle in the healing of wounds, the reunion of fractured bones, and in various other processes calculated to throw off offending agents, or to obviate their effects. Nor is the physician, perhaps, less frequently called on to observe its influence, though less obvious to the senses, and not so easily traced amidst the complication of symptoms which engage his attention. We have sometimes occasion to notice its operation in consumption. I have before stated my belief that tuberculous phthisis is a scrofulous affection. In this disease, which has generally bid defiance to art, nature has in some instances attempted a cure, and has succeeded. The metastasis of morbid action in cases of acute disease, is one of the most familiar phenomena which we meet with in practice. Every physician of much experience has seen gout and rheumatism fatally translated from external parts, in which they were safe, to internal and vital organs; and the most alarming symptoms often vanish in consequence of a transfer of the same complaints from the head, heart, or stomach, to the extremities. Chronic diseases, I believe, are subject to the same law; and phthisis has been occasionally averted or cured by the spontaneous occurrence of external scrofula.

In the second volume of the Eclectic Repertory, A.D. 1812, I published some cases illustrative of this fact. One of these it will not be amiss to notice in the present place. A coloured woman, thirty years of age, had laboured under a cough for about a year when I was called to visit her. At this time, in connexion with her cough, she had hectic fever, with frequent chills, and I believed her disease to be phthisis pulmonalis in an incipient state. On my first visit my attention was directed to several scrofulous tumours which were situated upon the thorax near the axilla, and gave her considerable uneasiness. Instead of endeavouring to disperse these tumours, as the patient herself desired, I concluded rather to promote suppuration, and to give a trial to the efficacy of the external disease in removing the internal. Emollient applications were therefore ordered to the tumefied parts, while palliative remedies were prescribed for the cough. Suppuration took place, and the abscesses were opened. A copious discharge was established; and, happily for the patient, there was an evident decline of the pulmonary complaint. I endeavoured to impress her with the absolute necessity of keeping the abscesses open, and she complied with my directions for this purpose. The consumptive symptoms gradually diminished, and at length entirely disappeared. Long after I had ceased regular attendance, I sought her out, and had the pleasure to find her in perfect health. The discharge from the ulcers was maintained for more than two years, and they were not allowed to heal till all danger from the pulmonary disease had vanished.

In addition to this case I have been consulted in the course of my practice by several patients labouring under disease of the lungs, who have been relieved by the occurrence of external scrofula. I recollect particularly the case of a delicate young man who was brought to me from New Jersey. He had been affected with cough, and had exhibited other symptoms of pulmonary consumption, which had subsided upon the occurrence of an abscess in his side. Efforts had been made to heal the abscess, but happily they had failed. I had no doubt that the preservation of his life depended upon maintaining the discharge, and gave advice accordingly. The case of a young woman in similar circumstances afterwards came under my notice, to whom I gave similar advice. In both instances health and life, in all probability, depended on the continuance of the external discharge.

If the opinion which I have advanced is correct, it is of the high-

est importance to watch, in consumptive cases, any tendency to the production of external scrofula, and to cherish it as a friend rather than to dread and endeavour to repel it as an enemy. It may even be desirable in some instances to attempt the establishment of a scrofulous affection of the glands, with a view to the relief or cure of the pulmonary complaint. A very common seat of external scrofula is in the neck; and nature points to this as a suitable position for the application of means calculated to induce the disease. The question now occurs, what are these means? by what measures can we excite scrofulous action in the cervical glands? In an individual strongly predisposed to the complaint, as those affected with tuberculous consumption often are, any irritation applied immediately to the part might have the desired effect. But a case occurred to me many years ago, in which I had an opportunity of trying the efficacy of a specific irritation.

In the summer of 1813 I was called to attend a black child, the son of a servant in the family of a respectable merchant of this city. I found it far advanced in consumption, which soon terminated fatally. In the progress of time the parents, who still remained in the same family, and appeared to be favourite servants, had another child, which was attacked with the same disease, accompanied with the same symptoms as in the former case. Considerable solicitude was felt by the master and mistress of the family, as well as by the parents; and my advice was requested. The child had cough and hectic fever, and appeared to be decidedly in the early stage of consumption. I explained my views as to the nature of the disease, and the mode of treatment I proposed to adopt, and was pleased to find a hearty concurrence on the part of those concerned. The child had never been vaccinated; and I determined to avail myself of the opportunity thus afforded of exciting disease in the glands of the neck. With a sharp lancet I made a number of superficial incisions through the skin, commencing behind the ear and extending downwards in the course of the glands which are usually the seat of scrofula in this part of the body. I then introduced vaccine virus into the incisions through their whole extent, and directed that the child should be brought to me when the vesicles, which would probably result, should have attained their maturity. When I again saw the patient I was pleased to perceive very extensive vesicles, accompanied with much tumefaction in the surrounding parts. This was the moment for carrying into full effect the plan I had com-

menced. Instead of allowing the vesicles to take the regular course, to form scabs and pass away, I scarified them with a lancet, and took care to supply them well with stimulating ointment. My object was to keep them sore as long as possible. Directions to this effect were given to the master and parents; and happily for the child they were put into operation. Weeks and even months elapsed before we allowed the parts behind the ears to heal. Scrofulous tumours made their appearance in the neck; a gradual diminution of the pulmonary affection was perceptible, and the child was at length relieved of all its dangerous symptoms, which, I am happy to add, have never returned.

I tried the same plan in another family in this city; but the patient was in this instance extremely delicate, and the remedy failed.

The result of the first case, though not of itself sufficient to establish the propriety of the mode of practice recommended, merits, I think, some consideration, when taken in connexion with the course which nature herself sometimes pursues in relieving the system of this terrible disease. My own opinion is decided, that in persons of consumptive habits, any appearance of external scrofula should be encouraged, and its development favoured by artificial means; and the very worst event to a patient so circumstanced would be, the accomplishment of what is often his own eager desire, the dispersion of the glandular swellings which nature has instituted for his relief. Nor do I confine this recommendation to individuals in whom symptoms of phthisis have already made their appearance. It is sufficient that the habit of body, or the family predisposition should be such as to offer a strong probability that the lungs may become the seat of the disease, unless it be averted by proper management. It is not always easy to carry the practice into effect. External scrofula is in many instances a painful affection, and if it proceed to suppuration and ulceration, is apt to leave unpleasant scars behind it. As it frequently occurs in the neck, and females especially find it difficult to reconcile themselves to the idea of the lasting deformity in which it terminates, the practitioner is frequently solicited to use repellent remedies; nor is it easy to resist compliance. In some instances he may succeed in effecting a dispersion of the tumours; but exactly in proportion as the external disease is driven away by the use of repellents, the danger of the pulmonary affection is increased. Patients have often applied to me in different stages of consumption, whom upon examination I have

found to have been subject, at a former period, to glandular swellings about the neck, the dispersion of which has been the signal for the hitherto lurking disease of the chest to display itself. These glandular swellings I have sometimes seen extending downwards in the course of the absorbents, and have traced them in dissection deep into the cavity of the thorax. In the treatment of such cases, when the subject is strongly predisposed to phthisis, I would urge the necessity of firmly resisting the solicitations of the patient, and carefully avoiding the use of means calculated to repel the external affection. Much rather should the tumours be allowed to run their natural course, or even assisted in their progress by artificial means; and this remark applies with peculiar force to the cases of young people, particularly young females about the period of the appearance of the catamenia.

The only method of treatment justifiable in cases of external scrofula, complicated with consumption, or with consumptive tendencies, is that addressed to the constitution, which, while it subdues the existing scrofulous action, at the same time places the system in the best condition to resist the attack or progress of the pulmonary complaint. To keep the bowels free from disordered accumulations; to administer internally whatever remedies may be calculated to preserve the several functions in a healthy state, and impart a wholesome vigour to the body generally; to direct a free exposure to the pure and fresh air of the country, and the employment of steady exercise; these are measures which, as they counteract that original vice of constitution in which both the external and the internal disease have their source, are not only unobjectionable, but highly advisable in cases of the character above alluded to. I would repeat, however, that while these measures are in operation, we should be careful rather to cherish than repel the scrofulous tumors by local means; and thus keep open a sluice for the morbid disposition of the system to vent itself, so long as it continues to exist, lest it should become accumulated, and turn in upon the lungs with a fatal increase of its terrible energy. I have no doubt, that by a neglect of this caution, many lives have been cut short which might have been considerably protracted; some which might have been ultimately rescued from the disease.

The fistulous sores which so often make their appearance about the anus in consumptive cases, I am disposed to consider somewhat in the same light with external scrofula. When fistula in ano is un-

attended by any symptoms of phthisis, or by a decided tendency to the disease, I do not hesitate to attempt the cure by an operation; but I believe there is often a connexion between the two complaints, which, when they exist together, should modify the course ordinarily pursued with regard to the external affection. I am not prepared to say that a successful operation in a case of fistula attended with consumptive symptoms would certainly aggravate these symptoms; but I am inclined to this opinion, and at any rate feel discouraged from operating under such circumstances by other considerations. It is a conclusion drawn from some experience in this complication of disease, that even after an operation, the fistula is much indisposed to heal: and a long confinement to the bed or chamber, with every variety of dressing that can be devised, will often be insufficient to accomplish the desired object.

In a medical gentleman disposed to phthisis, upon whom I operated for a very small fistula, the sore remained open for nearly a year, during which time the pulmonary disease was developed, to which he ultimately fell a victim.

One of the last cases of this kind which occurred to me afforded a striking illustration of the difficulty of effecting a cure of fistula when complicated with consumption. A young gentleman of the legal profession applied to me some years since with a fistula in ano, of which he was very desirous to be relieved. I performed the usual operation, and for some time no unusual or unpleasant circumstance occurred. But in the progress of the cure I observed an indisposition in the wound to heal; cough and hectic fever soon afterwards made their appearance, and eventuated in confirmed consumption, of which the patient ultimately died. The fistula never closed.

At present, when a patient in the commencement of consumption, or consumptively disposed, applies to me with a fistula in the region of the anus, instead of immediately operating, I recommend him to use air and exercise, and all other means calculated to improve and confirm his general health; believing that, as in the case of scrofula, when the general disorder of the constitution is corrected, the external affection and the incipient disease of the lungs will be likely to vanish together.

A young gentleman of this city consulted me under the following circumstances. He was affected with cough, frequent pulse, general debility, and other symptoms of incipient phthisis, which was

especially to be feared in his case, as he had lost a parent with the disease. In addition to these symptoms he was suffering with a fistula, which, though small, was very troublesome, and of which he was very desirous to be cured. Both he and his friends were anxious for an operation; but taught by former experience, I resisted their wishes, and by an explanation of my views upon the subject, induced the patient to relinquish his previous intention. It was in the latter part of summer that he applied to me. I told him that his disease was constitutional, and would probably be very slow in healing, even should an operation be performed; that a source of deeper solicitude was the complaint in his breast; that to confine him now, when the winter was approaching, would be to favour the progress of this complaint, which, before the succeeding spring, might proceed too far to be arrested; that his best plan was to exercise freely, and pursue measures calculated to restore his general health, with the return of which he would probably find his fistula relieved. He followed my advice. Business called him to the south, where he passed the winter, travelling much about the country. In the spring he returned wonderfully improved in general health, and with an improvement also of the local affection. The succeeding winter again carried him to the southern states, through the interior of which he travelled very extensively in the pursuit of mercantile objects, with the effect of completely re-establishing his health, which has not subsequently been materially interrupted.

In concluding these brief observations and notices, I wish simply to repeat my conviction of the great importance, in the treatment of tuberculous phthisis, of bearing in mind the connexion subsisting between the disease of the lungs and external scrofula, and of endeavouring to control the former by a temporary encouragement of the latter, while we are using constitutional means for the ultimate conquest of both.

ARTICLE X.—*A Summary of the Climate and Epidemics of Savannah during the series of years from* 1826 *to* 1829. By WILLIAM R. WARING, M.D.

(*Concluded from page* 392.)

The intermittents of 1827 were immediately suppressed by administering sulphat of quinine. I believe not a case resisted it. The remittents were double tertians: the last remission closely approximated to the intermittent state in almost all instances; and in some so nearly that the febrile action could scarcely be distinguished. After emptying the bowels once, twice, or thrice, and employing some diluent beverage, these were also quickly subdued by introducing the quinine after the subsidence of the chief fit. It sometimes happened that this medicine was administered too early, and before the subsidence was sufficiently advanced, when it became necesary to desist and continue the sedatives. For the purpose of placing the patient in a condition to benefit by it, I was in several instances forced to bleed, and afterwards immediately succeeded. The operation of sulphat of quinine, as might be expected from its compound structure, differs from that of the Peruvian bark. Beside the febrifuge atom contained in the bark itself, there is a mineral acid which contributes to modify it, and thus without experiment it might be supposed to exert some peculiar effects. It manifestly affects the nervous system in a powerful degree, without much direct influence on the blood-vessels. If given in large doses, and particularly when the existing gastritis has not been sufficiently subdued, it will produce delirium, inexpressibly severe headache, a roaring in the ears like the sound of waves, deafness, epilepsy and spasms, suspension of the muscular power of the bladder, slowness of comprehension, stupor, coma, &c. It appears also to exercise through the channel of the nervous system some indirect effects upon the heart, as interruptions of pulse, diminution without extinction of the febrile action of the pulse in intermittents, and entire reduction of the periodical exacerbation of the pulse without curing the disease which produced it. This last effect is remarkable: the force seems to abandon the blood-vessels, and various nervous affections are substituted for it, as delirium, cramps, &c. which accordingly assume the periodical character likewise. Thus its proper modus operandi seems obviously to be a revulsion from one

system to another, and in intermittent fever from the inflamed capillaries of the stomach to the brain and nerves. If it be given while those capillaries are in the full excitement of fever, the revulsion, if practicable, is frequently violent and alarming. The translated action is more dreadful than the original. But given during the suspension, or during a very languid state of the inflammation, a wholesome revulsive effect upon the nervous system amounting to a crisis is established, and the periodical return of the disease is precluded. A diversion from the stomach becomes permanently set up, and the regular attack upon this viscus effectually removed. Hence the sulphat of quinine is not a tonic, and does not cure by a tonic operation. Upon this principle, I never administered it with a view to tonic effects, and consequently never in convalescence or a state of debility. As soon as the fever is conquered, I commence to lay it aside, and as soon as I perceive that it evinces no disposition to return, I employ wine, porter, or nutritious diet in its stead. It suppresses the appetite, prevents abundant nutrition, and so far from improving, retards the restoration of strength. It does not appear to be any more tonic than the solution of arsenic, which is usually called a tonic likewise. Both I suspect have received their classification from their power in intermittent affections. They have been supposed to fortify the fibre in the intervals against the feebleness into which it was imagined to sink, and thus to prevent the reaction which was considered to be the product of that feebleness. The theory here advanced of the operation of the quinine shows why it is ineffectual or dangerous during the exacerbation of intermittents, or at any period of intense remittents. The inflammation of the mucous membrane is either too tenacious to suffer a revulsion, or if the revulsion be produced, it is violent, dangerous and incomplete.

All the cases in which the gastro-enteritis produced black vomit, with two exceptions only, terminated fatally; in one of these recovery took place, as I am informed, under the use of diluents and mucilaginous injections; in the other, under the use of large quantities of quinine. Nothing, however, ought to be attributed to the treatment in either of these cases, as it was employed in numerous others without the least advantage. After the vomiting came on, as usual, every means failed to make a beneficial impression. The practice of applying sinapisms externally, and administering red pepper internally, I saw fully tested this season, and it proved to be totally in-

efficacious. I saw it used from the commencement of cases, and much prior to the black discharge, without in the least perceptibly retarding it; in some instances I am fearful it contributed to accelerate its appearance. One of the first subjects of this symptom that came under my notice had been treated by mustard extensively spread over the skin, and pepper combined with sulphat of quinine in considerable doses internally. No time had been lost by the patient or his physician in adopting at an early period the use of the remedies. Notwithstanding this timely commencement, they availed nothing in checking the violence and speedy progress of the attack; death took place under the most appalling circumstances. When I speak of the mortality of almost all cases of black vomit, it will be understood that I do not comprise all cases of yellow fever, but those only in which the symptom actually occurred. There were probably others in which the gastro-enteritis tended to the same issue, and which terminated differently in consequence of the proper management interposed; which indicated a similar event by the well known characteristic features. I did hope something from the quinine in this terrible stage of fever; it has been much recommended, and I know its effective revulsive power: but after using it in every sort of quantity I was completely disappointed. I witnessed an extensive trial of it in the public hospital, as well as in the private practice of a number of physicians, without perceiving that it exerted any degree of efficacy whatever. The stomach retained it well, and it was sometimes accompanied with rubifacient and blistering applications to the skin, yet was still as ineffectual as every other remedy which has been tried.

A great portion of the cases of black vomit came under my observation, but it is remarkable that two only, and of those I am not positively assured, occurred within the circle of my private patients. It is equally remarkable, that in this circle, which is not considered to comprehend a less number of sick than is usual, but three deaths took place, and of those three one was a sailor, destitute of bed or regular attendance. Might not this have originated in some measure, I do not say exclusively, from the sedative mode of treatment employed? This, enumerated in few words, consisted in drinks of soda water, lemonade, toast-water, flaxseed tea, thin gruel or barley decoction; in doses of ol. ricini, from one teaspoonful to an ounce, as a mere evacuant, in injections of flaxseed tea administered from time to time; in blisters and sinapisms to remove nausea, pain,

or soreness at the epigastrium, or to excite the extreme circulation when *deficient only;* in cool air, external applications of cold water or ice. These remedies, accommodated to circumstances which every informed physician understands, composed the entire method in cases which presented the aspect of yellow fever, but without the symptom of black vomiting. This is the precise therapeutical plan too which our Brownists have denounced as fitted to reduce the energy of the capillaries of the stomach to fatal debility, and thus to induce venous congestions and black exudations. The statement here made appears to refute this charge at least, and if it demonstrate not the virtue of the treatment in preventing it, is proof that it does not promote the destruction of the patient. However much it may surprise the ultra advocates of the *physiological doctrines*, we consider artificial inflammations of the skin which I have numbered in the list of remedies, to be very good substitutes for leeches, which we cannot procure. We use them in all cases of *diminished external excitement* connected with an unusually irritated stomach. When we find the patient vomiting incessantly all his drinks, has a sensation of burning at the pit of the stomach, or a tenderness when this part is touched, or an intestine heat with cold extremities, we apply at first a sinapism, which is permitted to remain until the skin assumes a red colour. If this be insufficient to remove the evil, a blister is then resorted to, and we place it on the same spot at the epigastrium. If these be still insufficient, sinapisms and blisters are applied elsewhere. The accumulation of blood in the cutaneous vessels, the collection of serum under the cuticle and out of the circulation, or the attraction of the vital principle which they effect, are conceived to be revulsive and sedative upon the inflamed capillaries of the stomach. When the brain is much irritated we treat it on the same principle, and applications are made to the temples or nape of the neck. The good effect is prompt and obvious, the relief afforded is conspicuous, and the fact recurs in such numerous instances, that no one I conceive could doubt it. I think I do not err when I say, that during the fifteen years of my practice in this city, seven out of ten of all the serious cases of remittent and continued fever, have been managed in part with these remedies. Medical men of all descriptions have employed them and admitted their utility. Let it not be understood, however, that in the use of the sinapism it is our purpose to remove debility by urging the internal as well as the external circulation. The method here spoken of will

not be confounded with that species of practice which consists in covering the patient with mustard through all the stages of fever, through remissions, intermissions, and exacerbations, for the purpose of converting periodical into continued fever, and with the view of accelerating the blood of the stomach supposed to have become stagnant from debility of the small vessels. On the contrary, we design to quiet these vessels, already too active, to reduce the irritation by counter-irritation, to produce excitement where it is deficient, and abstract it from parts where it is superabundant. This view enjoins reserve in the use of the remedy, forbids its universal employment, teaches its subjection to circumstances, and its suitability to particular distributions of the vital principle only. In short, we employ it according to established usage.

The winter of 1828–29, was humid, cold, unsettled, and disagreeable in an uncommon degree; yet it was healthy throughout both town and country. The spring was rainy and cold, so that vegetation was a month later in appearance than usual. In February, children began to suffer from catarrhs, and in March the catarrhs assumed the additional feature of inflammation on the skin, and were converted into measles. This disease was so obviously spontaneous at first, was so transitory, and at the same time was so exclusively confined to children, that the physicians did not decidedly recognise it. As it became more general, however, the severity of the catarrhs increased, the cuticle effloresced or desquamated in all cases, grown persons were affected as well as children, and thus its character ceased to be doubtful. It continued to prevail throughout the months of spring, and terminated about the 1st of June. Nothing worthy of notice, either as to this epidemic or its treatment, came under my observation, except the single fact of the eruption; it constituted a link in the chain of cutaneous inflammations which I am recounting. The first part of the summer was sultry, and so much water fell, that persons began to augur the approach of violent diseases. The weather cleared up however, and became remarkably dry. The autumn has been unique in this particular; not a drop of rain occurred between the 21st of August and 27th of September. The fall temperature began to make its appearance about the 18th of August, and about the 24th the summer had evidently terminated. The salubrity of the climate has corresponded with the moderate quantity of moisture and the small amount of heat attending it. The pectoral predisposition which belongs to winter prevailed until the middle of

August; so that there were more catarrhs than bilious fever. The degree of health was unparalleled in this city. About the middle of September catarrhal affections disappeared, and some intermittents, with occasional remittents, occurred in the course of this month and the following. A number of these cases were accompanied with periodical accessions of nettle rash during the paroxysms, and several with an eruption similar to that of dengue. About the last of October and beginning of November twelve instances came under my care of remittents, commencing in an unusual manner. The patient was suddenly seized, after some little indisposition, with excruciating pain in the middle of the abdomen. The skin turned pale, pulse feeble, extremities and surface generally were cold. This state of the system continued for one, two, three or even four days, the sufferings of the person attacked appearing all the time to be extreme. At length the heart began to sympathize and act, the pulse rose, the skin became warm, and thus the secondary affection of fever was established. This distribution of excitation among the organs removed the intestinal pain, and in a few days the excitation also subsided in the termination of the disease. During the period of pain, or the first stage, a constipation existed which cathartics could not overcome; the peristaltic power could not be moved, and I think indeed was rendered more inert by them; the muscular tunic laboured under a temporary palsy. I considered this affection to be an enteritis, or the commencement of an autumnal attack of fever in the small intestines. One case ended in dysentery by passing into the colon, but generally the conclusion was a fever attended with foul tongue, profuse evacuations of bile, and marks of its having passed into the stomach. The proper remedies were found to be copious bleeding, warm baths of whiskey and water, mustard and brandy to the abdomen, hot brandy and laudanum applied after removing the mustard, and injections. The bleeding was carried to syncope, or until the pain was subdued, and repeated whenever it returned, without regard to quantity. In one case the patient lost two pounds of blood. When the fever was developed and the violent symptoms suppressed, a few doses of castor oil completed the recovery. But prior to this period, as in obstinate constipation and colic from other causes, the purgative was useless and injurious. In a few cases a nettle rash was thrown out during the febrile stage, and showed again how much the skin has been disposed to interfere in all our diseases and at all seasons.

Besides these eruptions of the present autumn, a number of persons have suffered from boils, and particularly that species of them which appears on the lips and face at the end of fevers, and which are a critical effort of the skin. These have been much more frequent than I have known them, and some persons of usually the best poised constitutions have been seriously afflicted.

Thus it appears from the history here given, that since the year 1826 to this time we have been visited by a series of epidemics and other diseases tending to the periphery of the body. For a number of previous years eruptions were very rarely epidemic; we were subject to bilious and yellow fever of all grades during spring, summer and fall, or nine months out of twelve; and during the winter even the pneumonics were sometimes so bilious, as the epidemic pneumony of 1816, 1817, that many physicians attributed them to the prolonged influence of miasmatic exhalations as well as of cold weather. Inflammatory complaints throughout the year settled upon internal and important parts of the thoracic or abdominal cavities, while exterior and less important portions of the system were permitted to be exempt. Does it not seem that their greater gravity resulted from an inert or phlegmatic state of the extreme vessels which are distributed to the skin and limbs? Is it unreasonable to consider them as exanthemata circumscribed within the too narrow boundary of the vital organs? On the other hand, is it too much to say that the mildness of the subsequent eruptive diseases arose from the more animated state of those vessels, from their readiness to participate in the morbid conditions of internal parts, and in short, from the centrifugal direction given to irritations which, under the former circumstances, would have assumed the shape of deadly pneumony, of yellow, or of bilious fever? There is a fact connected with this subject which is worthy of notice for the light it appears to shed upon it. Anterior to 1820 for a number of years the humidity of the atmosphere was great and incessant. The quantity as well as the character of the rains during the hot months was different from what they have been more recently. Now the showers are generally short, are accompanied by much of the electrical fluid, and after they end the atmosphere is left elastic, and with no more water than comports with health; frequently the intervals between showers are long, and considerable droughts occur. Formerly the rains poured for days in unbroken torrents, as is represented to be the case in the West Indies or on the west coast of Africa; they were accompanied with

but few instances of thunder and lightning, were not interspersed with droughts, and when suspended, left the atmosphere dense and loaded with vapour. We have in this country, in fact, groups of wet years and groups of dry years, or cycles of humidity and of drought. The elder inhabitants differ as to the length of these cycles, but agree as to the reality of their existence. We have latterly been subject to the influence of one of these dry cycles; the atmosphere has acquired a remarkable degree of comparative freedom from moisture. Has the revolution of our epidemic diseases from interior to exterior arisen in any degree from this prominent change? Does immersion in a warm, watery air diminish the active sympathy of the capillaries on the superficial part of the body; does it lessen their proper share of the vital principle? And on the other hand, does the envelope of an air dry, thirsty and absorbent, combined with intense heat, render these capillaries alert and ready to assume inflammation from primary inflammation of an internal organ? Any one must have remarked how much more abundant what is called prickly heat appears upon the skin in dry and hot, than in wet and hot summers. The circulation of blood in the skin is plenteous and obvious; perspiration is free. The fluids seem to be invited to the pores by an arid atmosphere which possesses an affinity and avidity for them. The exhalents are not allowed to be clogged by the speed with which evaporation is conducted, and thus the reticule of capillaries under the cuticle acquires animation and activity from use. So also it must have been observed that a warm moist air, such as is commonly called sultry, relaxes, enfeebles, and produces paleness by lessening the force of the superficial circulation. It weakens the cutaneous vessels with which it is so nearly in contact, indirectly represses the blood upon internal organs, excites them by the influx of undue quantities of fluid, and thus augments the degree of vital principle within them as much as dry air does that of the skin. By these modes of operation it is very easy to perceive how these opposite causes should give rise to opposite predispositions, the one of the interior the other of the exterior; how these predispositions should counteract the violence of their mutual diseases, and when such counteraction is absent, how much more intense must be rendered the peculiar maladies of each. It becomes easy to see why, during the influence of a humid autumn, marsh poisons produce such overwhelming inflammation of the important organs; and on the contrary, how it happens that in dry autumns they generally call up

inflammations that immediately and easily cease. It also explains another phenomenon occasionally witnessed in our swamps and rice fields. In dry autumns, such as that of 1829, the inhabitants either escape fever altogether, or incur intermittents or the mildest remittents. Sometimes the best health is enjoyed in rice plantations, while at other times no one passes without suffering violent and ruinous attacks upon the digestive apparatus. The grounds are nevertheless covered and uncovered with water in nearly the same manner; the surface is exposed to the sun uniformly towards the harvest, and it is to be supposed that miasmata are invariably evolved. Why the same effects do not invariably arise from them can be accounted for in no way so probable as that which I suggest, and which is founded upon the supposition of different predispositions produced by dry and humid atmospheres. It is not sufficient to say that vapour is the necessary vehicle for the conveyance of miasma from one point to another. In a rice field, occasionally inundated, there would be, under an August sun, always enough for this purpose; besides the population we are now alluding to reside upon the soil where the miasma is elaborated, and where no vehicle but the air could be necessary. Persons thus situated, and they continually breathing the poison as it is extricated under their feet, do nevertheless sustain, in dry seasons, either a very mild grade of fever, or escape altogether, while in seasons that are humid they suffer extremely.

One word more of a practical nature. I have been sometimes asked by persons in and out of the profession why the lancet, calomel as a salivant, and active purgatives (not drastics) were so much less resorted to within a few years than formerly. I have answered that it was owing to change of climate, change of disease, and not to the least change of pathological or therapeutical principles. To those who think that the force of remedies ought to be adapted to the degree and distribution of the vital power, this answer has seemed to be reasonable. But to those who believe that fever is fever, and that all cases should be treated alike, it has not been satisfactory or intelligible; they have not hesitated to attribute it to abandonment of doctrine. The historical detail which I have given shows, nevertheless, how preposterous it would have been to employ of late the herculean remedies. Why should any one salivate, purge actively, or bleed always in such diseases as breakbone, dengue, the mild intermittents and remittents of 1827, 1828, 1829. Would

not a physician have been taken for insane who would have resorted to such potential means to subdue such trivial affections? It is true that black vomit did prevail in 1827, but it was scarcely more than sporadic and simulated so precisely the symptoms of many cases exempt from danger, that before it could be identified the curative moment was lost. It would be ridiculous to salivate in ten cases where only one out of the number might terminate in black vomit. Yet this was exactly the embarrassing state of things in that year, and is the reason that mercury was not employed. Salivation is another name for revulsion, and calomel ranks with quinine, and blisters. But it is more potent than either, and has translated out of the stomach and cured more cases of the gastritis in question than all other remedies together. In short, the actual therapeutics in fever consists of direct sedatives and revulsives, and differs from the former in the force of means only. The object formerly, as now, was to produce a sedative effect upon a part inflamed. The principles and practice were the same, though the remedies were more energetic; and reasonably more energetic, as must be evident to an unprejudiced understanding. Venesection and abstinence are bottomed upon the same principles, however different in force. Active cathartics judiciously managed have a similar operation. On another occasion I shall endeavour to demonstrate this, and to show that exclusive theory has lately given to this last class of remedies an underrated value, which much experience in this country ought to have corrected.

ARTICLE XI.—*Observations on the Endermic Application of Medicines.* *By* WILLIAM W. GERHARD, M.D.

[Concluded from page 402.]

Narcotics.

The application of narcotics to painful ulcers, as well as to other diseased parts of the body covered by the cuticle, has long been familiarly known in medical practice; solutions of opium are also sometimes employed to relieve excessive pain or inflammation of

blistered surfaces; but although no one could be ignorant that a narcotic effect was sometimes produced, the local disease was the only object of treatment. The endermic administration of narcotics is admissible in nearly every case of disease where a long continuance of their use is requisite, and frequently in acute affections; in this manner exhibiting its powers, after all the ordinary forms of exhibition have been exhausted, and permitting an irritated stomach to regain its susceptibility to remedial impressions. Narcotics, when applied externally, produce their specific action with much greater promptitude than most other medicines, a few minutes being generally sufficient to exhibit a marked effect; this may arise from their action being in part directed to the nerves of the surface, with which they are in contact; for very little local pain is suffered, except in the cases where a large dose has been improperly applied to a blistered surface highly inflamed from some accidental cause. The phenomena which result, do not differ from those usually observed when the same remedies are given internally; excepting that the drowsiness which follows the slight local sensation is less suddenly excited, but of much more permanent duration.

Narcotics have been applied to all parts of the body, and in all the cases in which I have witnessed their use, they acted with the greatest energy when placed nearest to the central organs; but in painful local diseases a directly sedative action seemed to be exerted upon the nerves of the part; hence, if the pain arise from an organ easy of access, it is always better to apply the remedy in its immediate vicinity. The average dose, if the remedy be placed immediately in contact with the cutis, is about double or treble the ordinary quantity; but if it be incorporated with cerate or mingled with a poultice, we cannot be sure that the absorption will be as perfect as in the former instance. Allowance is then of course to be made by adding a larger quantity. I have found this class of substances of more decided utility than any other in the treatment of diseases by the endermic method; in many of the cases which will presently be detailed, no substitute seemed capable of producing the desired end with the same facility; and in no instance have I had reason to regret their adoption.

Opium.—This medicine has been used in the crude state, and in its various forms of preparation. Ten grains of powdered opium were sprinkled upon a painful blistered surface; very little increase of irritation was caused, although the medicine very soon acted as a

narcotic; or, as the patient remarked, the powder had got into her head. The application in this instance was made to one of the extremities; and the dose was consequently larger than I am accustomed to direct; but I do not think the effects resulting from very large doses are in direct proportion to the quantity applied. The medicine not coming into contact with a vital part, is indebted for its action to the limited power of absorption possessed by remote organs. The dregs of opium remaining after the preparation of the tincture, are often used at the almshouse, as a soothing ingredient in cataplasms for painful ulcers; and I have observed so great a degree of narcotism in some cases to ensue, as to render a suspension necessary.

The tincture of opium diluted with water is a very useful lotion for painful blisters, but is perhaps inferior to the aqueous solution; the latter preparation is also admirably adapted for the formation of poultices, if applied to an irritable surface. I have seen the most distressing restlessness instantly yield to the remedy acting in this manner upon the origin of the disease.

The acetum opii, or black drop, is added to many liniments, as the most powerful liquid preparation of opium; and, with the exception of the salts of morphia, it is, when pure, the best form for administering this narcotic as an endermic remedy: it may be spread upon the surface without any admixture, or, which is preferable, diluted with thick mucilage.

Case 6. Richard Elliot, aged twenty-six, admitted November 19th. Bronchitis, complicated with gastro-enteritis. Leeches were directed to the epigastrium and a blister applied to the chest: ten drops of the acetum opii were given three times a day, but aggravated a diarrhœa with which the patient was affected. Dr Jackson then directed the same medicine to be spread upon the blister in doses of half a drachm, repeated as before: the last application was made at nine o'clock in the evening; during the night great determination to the head took place, with heavy sleep, and headache the next day, resulting from the large dose employed.

Case 7. Thomas Ward, aged thirty years, had been treated for chronic opthalmia, in the early part of May 1830. A blister was directed to the arm, and the cantharides ointment was subsequently used to retain a suppurating surface; very severe strangury followed the latter dressing, which was in fact an endermic application. Half a drachm of black drop diluted with mucilage was now

applied to the blister, and repeated at the expiration of some hours: immediate relief followed the exhibition; the patient remarked that he felt very drowsy, and soon fell asleep. Strangury is usually prevented by an eminent practitioner of this city by mingling a certain portion of opium and camphor with the blistering cerate; by this means inducing a feeble absorption of the narcotic. From the cases just related, and a number of others which fell under my notice, I should think that the endermic dose of black drop is from fifteen to twenty minims upon the epigastrium, but half a drachm if applied to the extremities.

Sulphate and acetate of morphia. These salts may be taken as the type of all the other combinations of morphia; the sulphate especially, from its greater solubility, is far preferable to any other of its class. No substances are so well suited for external administration as these salts: possessing great activity concentrated within a very small bulk, they may be used in a great variety of cases and applied to any parts of the body without causing more than a very slight temporary irritation, the patient scarcely complaining of any painful sensation in a large majority of those cases in which I have prescribed them. A medical friend informed me that he knew considerable inflammation to follow an application of the acetate of morphia; greater irritation is certainly caused by this salt than by the sulphate, on account of its inferior solubility; but the blistered surface must previously have been highly inflamed or the patient labouring under a febrile affection, as in no other instance within my knowledge has any important inconvenience arisen. The morphia may be formed into a cerate, or, what is generally to be preferred, the powder may be directly applied: the necessary quantity varies from half a grain to three or four grains, and its operation is generally perceptible a few minutes after its exhibition.

Case 8. John Flinn, aged sixty. Intemperate. Admitted October 12th, with chronic bronchitis. All the usual remedies, as bleeding, frequent cupping, blisters, opiates, including the sulphate of morphia, had been prescribed without success. On the 16th November a blister was applied to the thorax, and dressed with the following cerate:—morphiæ sulph. gr. v. cerat. simp. ʒj. *m;* one third of this quantity to be applied three times a day. This application was continued for three days with great advantage. On the 19th, a paroxysm of intermittent, to which the patient had been previously subject, supervened: the blister was therefore dressed with

a cerate, to which the sulphate of quinia had been added; the chill did not again return. 20th. Patient says he is quite well; the cough scarcely perceptible. A similar treatment was pursued in some other cases of bronchitis with success.

Case 9. George Lee, (black) aged fifty years, admitted in June last with phthisis, characterized by hectic fever, cough, absence of vesicular respiration and dull resonance at the upper part of the right lung; degenerating into mucous gurgling after a few months. The ordinary remedies were exhibited:—topical depletions, blisters, opiates, including the morphia, &c. About the 1st of September a blister was applied to the chest, in order to furnish a permanent discharge; the morphia, in common with all other anodynes, now irritating the stomach, a grain of the sulphate was sprinkled upon the blister twice a day, and in a short time greatly relieved the patient, who declared that he felt better than he had been for months.

The same treatment is applicable to most cases of phthisis where the susceptibility of the individual is apt to be impaired by the long continued use of medicines.

Case 10. Cornelius M'Manus, aged thirty; admitted into the venereal ward, with gonorrhœa: the discharge was easily moderated; but the patient was troubled by an incessant inclination to pass his urine, with great irritation at the glans penis and along the course of the urethra; a variety of remedies were prescribed by the surgeon in attendance without relief. About the last of August a blister, two inches square, was placed upon the perineum, and dressed twice a day with a portion of cerate containing one grain of the acetate of morphia: the patient experienced immediate relief. The next morning, from a mistake of the nurse, simple cerate was used for the blister, but without the knowledge of the patient; the disagreeable symptoms immediately returned, but were removed by persevering for a few days in the use of the morphia. Another patient in the ward was relieved from similar symptoms by the same cerate. Neither of them experienced other local effects than a slight itching.

Case 11. Peter Critz, aged forty-three; intemperate. About the 1st of May 1830, he had a violent attack of neuralgia, in the course and ramifications of the frontal nerve. Acupuncturation was fruitlessly tried, accompanied at the same time by general treatment, as purging, and cupping to the back of the neck. A blister was then applied immediately above the orbit, the pain continuing with equal ob-

stinacy; upon its removal five grains of the sulphate of morphia were sprinkled upon the denuded surface. In less than an hour after this application the patient was perfectly calm, and has had no return of pain, although several weeks have elapsed. A repetition of the morphia was not necessary. In a case of neuralgia attacking the saphenus nerve, immediate relief was experienced from an application of the morphia to a blister which had been placed near the knee. These cases of neuralgia, which have been handed to me by Dr GALT, were both continued, and of course far less easily removed than the intermittent form, which readily yields to the quinia.

Case 12. John Stafford, aged about fifty, has been subject to frequent attacks of rheumatism, in several of which I had attended him. In May 1830, he was attacked with severe pain in the muscles of one side of the neck. The affection being strictly local, I determined to treat it by the endermic exhibition of the morphia. A blister having been applied to the seat of pain without relief; a cerate containing five grains of the sulphate of morphia was then directed to be divided in three portions, and used as a dressing. The first application was made in the evening; a slight irritation occurred, but soon subsided; a disposition to sleep soon came on, and the patient slept much more soundly than he had done for some nights; the next day he experienced some remains of pain, which were removed by the use of the remainder of the cerate.

A peculiar advantage results from the narcotism which is produced by external applications, on account of the gradual but permanent manner in which it acts upon the system, and on this account it is very appropriate for the treatment of rheumatic affections.

Case 13. A patient named Harrigan was admitted into the Pennsylvania Hospital in December last, with delirium tremens; he had been ill several days, and had not slept since the commencement of the attack. It being necessary to administer opiates, the acetate of morphia was directed; but the extreme gastric irritability of the patient rendered it impossible for him to retain it a moment; and all the other remedies which were prescribed failed to allay the nausea. The patient was now sinking, when a blister was applied to the epigastrium, and six grains of the acetate of morphia sprinkled upon the surface, about five o'clock, P.M.; the patient was rather relieved and slept about an hour. The next day four grains were applied to the blister, the patient continuing quiet, but with very little sleep; and on the third day another application of five grains

was made, which produced the desired effect; the patient obtaining a quiet sleep of several hours, followed by complete recovery. I am indebted to Dr HAMERSLY for this case, which is peculiarly interesting from the fact, that the patient could scarcely have escaped death without resorting to endermic medication.

Case 14. Moses Decker, aged twenty-seven. Very intemperate. Admitted May 8th, 1830, but was not attacked with delirium tremens until the 10th. He had been purged, &c.; had slept, but not longer than three or four hours at one time.

10th. Pulse 104, tongue white and furred at the centre, rather red at the edges. Dr JACKSON saw him in the morning, and directed his head to be shaved, and bladders filled with ice to be constantly kept upon it, with warm applications to his feet. He was also cupped freely on the head, and a blister six inches square applied to the epigastrium; it was dressed at half past nine, P.M. with a powder composed of sulph. quinine gr. iv. sulph. morphia gr. ij. *m.*

He was at this time very delirious, crying out that he would die; imagining that every one had designs upon his life. At 12 o'clock, being still much excited, another powder was applied.

11th. Slept three hours and a half last night; is more rational but still timorous; pulse 90, rather feeble; tongue has cleaned; bowels open. Another powder applied at 7 o'clock, but omitting the quinia; slept an hour or two in the morning. Awoke at half past 12, when his blister was again dressed with a powder composed, as the last, of two grains of morphia. Fell asleep a few minutes after the dressing, and slept more than six hours. Awoke at 7 P.M. entirely rational; attempted to eat some indigestible food which he had obtained, but his stomach was still too weak to receive it. Another powder of the morphia was applied; slept within an hour afterwards and rested well during the night. The next day his somnolency continued, sleeping at least eighteen hours in the twenty-four, but perfectly rational when awake. No medicine was taken internally during the disease, with the exception of an effervescing draught to allay the accidental nausea, and one or two glasses of porter. The patient now continued entirely convalescent, and was very soon discharged well: the whole quantity of the sulphate of morphia necessary for the cure was twelve grains.

Without any pretentions to an infallible remedy for a disease so extremely uncertain and liable to complications as delirium tremens, which the observation of a large number of patients in an institu-

tion, where a greater number of cases are undoubtedly treated than in any other, has convinced us, will often baffle the efforts of the most skilful practitioners; it will not, I trust, appear presumptuous to recommend this method as of immense utility in a great number of cases, as an adjuvant, and, in not a few, as the mode of treatment principally to be relied upon for success. In several other instances this method of treating the disease was pursued; occasionally without the addition of internal remedies, but more frequently as an adjuvant, and the results have been very satisfactory when compared with the usual methods.

A number of cases of other diseases may be found scattered in many of the later journals, in which the salts of morphia have been used with great advantage. Tetanus, among others, has been treated in this same manner, and according to some accounts, with flattering success; a case was related to me in which it had been tried in conjunction with other remedies, but without manifest advantage, and indeed a disorder so ruthless, and as yet almost always incurable, could scarcely be expected to yield to this or any other mode of treatment.

Other narcotics were used with frequent advantage upon blistered surfaces, as the extracts of belladonna, cicuta, stramonium, &c. a smaller quantity sufficing for the relief of any pain, than if the epidermis had not been detached.

Case 15. Henry Holston, aged twenty-five; admitted into the venereal ward with gonorrhœa. The disease was readily checked by the common treatment, but the most painful and permanent symptom was a chordee which attended the inflammation; a blister was therefore directed to the perineum, and ten grains of the extract of stramonium applied in a softened state to the part. A few repetitions were necessary to prevent the return of the chordee, but this unpleasant symptom was instantly removed upon the first dressing. No narcotic will of course be effectual if the inflammation be very intense.

Case 16. Lot Ledger, aged thirty-four. Very intemperate. By occupation a blacksmith. Admitted November 4th, with cough, difficult respiration, and general dropsical effusion; disease of the heart was soon discovered, and the treatment modified accordingly. About this time I had an opportunity of examining the patient, through the politeness of the gentlemen in attendance. The impulse during the contraction of the ventricles was very powerful, and felt in situations corresponding to both sides of the heart; the

sound was readily heard over the whole anterior part of the thorax; a very well marked bruit de soufflet was audible, especially accompanying the contraction of the auricles. The pulsation in the abdominal aorta and carotids was very strong; pulse full, tense, 120 in the minute. The diagnosis was of course hypertrophy and dilatation of both ventricles; and thickening, probably cartilaginous, of the mitral valves. Repeated bleedings, cupping, and purging were prescribed for several days, with some benefit.

19th. The patient has taken the powder of digitalis several times, but the gastritis which attends his disease prevented it from producing any favourable effect. The pulse was little changed. Dr JACKSON therefore directed a blister to be applied to the cardiac region, and six grains of powdered digitalis to be sprinkled upon the surface once a day.

20th. Pulse still full and frequent; digitalis continued.

21st. No change in the symptoms or treatment.

22d. Pulse 110; medicine as usual.

23d. Pulse 104; volume much diminished; the digitalis increased to eight grains, divided into three powders.

24th. Pulse 96, soft and greatly lessened in volume; diet and digitalis continued; patient now expresses himself much relieved, though no permanent advantage can be anticipated from any treatment at this stage of the disease.

25th. Pulse 80, calm and feeble.

30th. Pulse has varied from 75 to 80 since the last date; the digitalis was therefore discontinued two or three days since.

This patient died in December suddenly, from large effusions into the pleuræ. On examination, the cavity of each ventricle was found enlarged, and the parieties much thickened; the thickness of the left ventricle at its middle was twelve or fourteen lines, and that of the right about six lines at the same place. Auricles enlarged, mitral valve considerably thickened and cartilaginous. Size of the heart double that of the fist of the subject.

Case 17. Charles Parker (black), aged about forty, and admitted April 1st, 1830. Severe bronchitis formed the most prominent disease on admission, and was much relieved by free depletion, general and topical, &c.

10th. Examined the patient; found the bronchitis much diminished; action of the heart very great, its sound and impulse being both excessive; antiphlogistic treatment continued.

21st. Powerful impulse of the heart; very distinct sound of a rasp, coinciding with the contraction of the ventricles; sonorous rattle and feeble respiration distinguished over the greater part of the chest; pulse 108, quick, tense, but small; a blister was directed to the cardiac region, to be dressed with cerat. simp. ʒj. pulv. digital. gr. x. *m*; one third of this quantity to be applied three times a day. The application was not however actually made until the 23d.

25th. The gastric irritation less; pulse not much affected; continue treatment.

28th. Pulse 100, much less quick; applications discontinued, from some extraneous cause. Patient died suddenly on the 1st of May, from a congestion of blood in the left side of heart and lungs; on examination, found simple dilatation of Bertin on left side of the heart; great contraction and hardening of semilunar valves of aorta, and some disease of the mitral valve.

The result of these cases is very gratifying, and affords great reason to believe that the proper method of administering digitalis in the diseases of the heart, is by applying it to an external surface. In a very large majority of patients the stomach will be found so much excited that the direct gastritis, which the internal use of a powerful irritant produces, will counterbalance any ultimate effects that may be desired. No one now controverts the declaration of Broussais, Andral, and all other practitioners, that "la digitale ne ralentit le pouls qu' autant qu'elle n'irrite pas l'estomac;" and in a large number of diseases of the heart and other affections which have fallen under my observation, within the last two years, at the Philadelphia Almshouse, this statement was amply verified.

The endermic dose of digitalis should, I think, be about two grains, repeated three times a day in the commencement, and of course gradually increased; care however must be taken to avoid great irritation of the blistered surface, which might in some cases counteract our object.

Cathartics.

One of the most interesting, if not the most useful facts furnished by endermic medication, is the ready and powerful action of some of the cathartics. The external use of narcotics has long been familiarly known in certain diseases, and the action of tonics may be readily supposed, independent of the tissue to which they are applied; but catharsis seems so intimately connected with a direct

stimulation of the intestinal membrane by our remedies, that most practitioners would scarcely credit the facility with which it follows an endermic application. Although many of the purgatives operate readily in this manner, yet it must by no means be imagined that all substances of the class are equally manageable; the great variety of their chemical composition renders a selection very necessary to a successful result. As in the other classes of remedial agents, those from the vegetable kingdom are alone included in our list; while solubility in the animal fluids, concentration without very acrid properties, and the other requisites before explained, must always be sought for in the articles to be employed. A necessity for the present mode of exhibiting cathartics rarely exists; but still in the case of maniacs, perhaps in children, although I cannot speak from any experience of endermic medication in their diseases, and other cases which every practitioner may occasionally meet with, it may prove useful.

Aloes. This medicine is the purgative best adapted for endermic medication; it does not irritate powerfully, is very soluble, and acts in nearly the same dose as when taken internally. The dose is ten grains, repeated if necessary in a few hours.

Case 18. William Young, aged forty. A blistered surface upon the epigastrium was dressed with ten grains of powdered aloes, which was repeated in the evening.

October 10th. Bowels were costive before the application of yesterday; but were last night opened six or seven times with griping and watery stools. The first evacuation occurred about an hour after the application of the aloes, and was preceded by a sensation of heat apparently arising from the part to which it was applied. Ten grains sprinkled upon the blister in the morning, produced five or six discharges during the day.

11th. Bowels still freely open; purgative discontinued.

Case 19. John Lynch, aged thirty-nine. October 9th. Ten grains of aloes were sprinkled upon a blister at the epigastrium; bowels costive. 10th. Well purged this morning, with griping; two applications were made during the day; he was purged five or six times. He experiences no heat in the abdomen, and complains of no pain from the dressings.

Case 20. Owen Scolly, aged thirty. The bowels of this patient being very costive, in December a blister on the epigastrium was dressed with the following cerate: pulv. aloes socot. gr. xxiv. cerat.

simp. ℥j *m*; one-third of this quantity to be applied three times a day. By this the patient was freely purged.

Case 21. George Comly, aged forty-two. About the last of November he was afflicted with obstinate headache, attended with constipation; it had been for some time found necessary to purge him with twelve grains of aloes every other day; the same quantity was now sprinkled upon a blistered surface which had been kept open on the back of the neck. Catharsis, as free as was usually produced by the same medicine internally administered, followed this application.

Gamboge. This article, owing to its solubility, purges freely when applied in the endermic method; it cannot, however, be used so frequently as aloes, on account of its more acrid properties.

Case 22. Christopher Murdock, aged fifty-four. A blister had been applied to the back of the neck to remove a violent headache; bowels constipated; the surface of the blister was dressed with a cerate composed of pulv. gamboge gr. xviij, cerat. simp. ℥ss *m*; to be used in three dressings. Bowels were, in consequence, opened very frequently, with severe griping.

Gamboge and aloes, in the proportion of two or three grains of each, operated well as a laxative when applied to the skin.

Rhubarb. I fairly tried this article in one instance upon the epigastrium, in the quantity of 80 grs. during the day; it was continued for two days without success. It was not irritating, and was probably not efficient merely from its want of energy.

Jalap. In two instances this medicine was used without any satisfactory result; it produced considerable irritation, and being insoluble in aqueous menstrua, could not be absorbed.

Elaterium. The preparation of Clutterbuck, in doses of a grain, sprinkled upon the epigastrium, at intervals of one or two hours, produced merely a local action.

Croton Oil. I had expected a powerful operation from this medicine; but neither on blisters, nor on ulcers, even when it was increased to ten minims, was any catharsis observed.

Compound Extract of Colocynth. This is readily applied when softened; and in doses of a scruple repeated, it proved cathartic, but in a feeble degree.

Diuretics.

The difficulties which sometimes attend the exhibition of diure-

tics, and the uncertainty of their operation, are subjects of general regret among practitioners. It is frequently found that dropsical effusions are attended by various grades of inflammation of the primæ viæ, and as no stimulant so active as most of this class can be tolerated in such cases, another surface for their application must be sought for; in some instances the iatraleptic method has been successful, at least it is still frequently resorted to in the Parisian hospitals, but it is at best very feeble and far inferior to the more efficient mode of addressing the remedy to the denuded cutis. All the vegetable diuretics may be administered as endermic remedies, and in many cases the mercurials may be given in the usual mode, as an adjuvant to their action. The abdomen is the most proper place for this application, especially as it is often selected as the situation upon which blisters act with the most happy effect. The general rules for the administration of diuretics are similar to those already laid down in reference to the other remedies; the success of this class of remedial agents employed in the endermic method, in a few instances, has only induced me to regret that I was unable to test their powers by a more extended course of observation.

Scilla Maritima. The squill I have used separately and in combination with digitalis.

Case 23. Mary Burk, aged sixty. This patient was a long time in the infirmary, affected with ascites. A blister was applied on the 15th of October to remove a violent rheumatic pain at the inside of the thigh; upon its removal, four grains of powdered squill were sprinkled upon the denuded surface three times a day; an abundant secretion of urine, causing the entire absorption of the fluid effused, continued until the suspension of the medicine.

Case 24. Ann Smith, aged thirty-six years, admitted October 24th, after a confinement of some weeks in prison, where she had been treated for hydrothorax. She was then labouring under general dropsy, with a frequent and rather feeble pulse, bowels regular, but urine scanty; a gill of gin, much diluted, was directed as a stimulant, to be taken during the night.

25th. Rather better, pulse fuller, diuresis more abundant during the night; a blister was directed to the abdomen, to be dressed in the evening, with pulv. scill. gr. vj.; pulv. fol. digital. gr. j *m.*; to be repeated the next morning.

26th. Urine has become very copious, blister has been twice dressed with the powder; anasarca diminishing.

27th. Powder applied twice a day; urine continues abundant; the water is now entirely evacuated, and the prescription consequently discontinued.

Emetics.

Emetic substances rarely require administration by any other channel than that for which they seem naturally destined; but in some cases of poisoning, and perhaps in other instances, the endermic mode of exhibition may be thought preferable. All the vegetable emetics act with great readiness when placed in contact with blistered surfaces, but the metallic preparations, when applied to an excoriated part, are, as is well known, in some instances powerful astringents, and in others act as escharotics. Were it not for the general law so often alluded to, that highly stimulating articles, particularly from the mineral kingdom, produce local inflammation, but are not absorbed, the names of caustic or epispastic might be expunged from the materia medica, for death would certainly follow their use in the multitude of affections to which they are now applicable. I would not, however, confide in this rule as invariable; exceptions occasionally occur; thus cantharides, we all know, are frequently absorbed, and the same effect is said not unfrequently to result from arsenic or corrosive sublimate; caution is therefore necessary in all cases in which an escharotic is applied to a large extent of surface.

Tartarized Antimony. Ointments and liquids containing this ingredient always cause severe inflammation when applied to the sound skin, and the same effect, but in a higher degree, is produced by sprinkling the powder or spreading the ointment on a blistered surface, and with this design they are often used, especially in pulmonary affections. A solution of tartar emetic in mucilage, produces in like manner no other effect than high irritation, sometimes reflected upon the general system.

Emetine. As all the active property of ipecacuanha depends upon this alkali, it is far preferable to the bulky powder, and may be considered as a valuable endermic medicine.

Case 25. Ten grains of the impure pharmaceutic emetine of the manufactory of Vauquelin were applied to a blister on the epigastrium, for the purpose of exciting emesis. Vomiting came on in fifteen minutes after dressing the blister, the emetine being softened and spread as a paste upon the surface. A purging, which continued some time, followed. Five grains were applied in

another case; vomiting was here also produced, but not until after a delay of some hours.

Nicotiana Tabacum. It has been long known that distressing nausea is caused by the application of a cataplasm of the leaves of tobacco to the epigastrium; but the empyreumatic oil obtained from the plant, possesses this property in an eminent degree. An accidental circumstance furnished me with a striking example.

Case 26. A variety of local applications, in addition to general treatment, had been in vain employed in order to produce the absorption of an indolent bubo. An ointment containing the oil of tobacco was therefore resorted to as a dressing for a blister which had been applied over the tumor. The patient used a larger quantity than had been directed by the gentleman in attendance, rather more than three minims being employed for a single dressing; severe vomiting continuing during the whole night, came on a few minutes after the application, and was only arrested with considerable difficulty. As the tobacco ointment is a common application for indolent tumors, a useful caution may be deduced from this accident.

Mercury.

The preparations of mercury seem to form an exception to the rule, that mineral substances are absorbed with great difficulty; they are frequently employed in practice with this intention. Blisters upon bubos and other tumours are often dressed with the mercurial ointment, and salivation may be much more easily produced in this way than by rubbing it upon the cuticle. Dr Coates informs me that he knew salivation to follow the application of the red precipitate ointment, although this preparation is escharotic. The ordinary endermic applications of mercury are so well known, that it is unnecessary to detail any case for their illustration.

Iodine.

This is also a very irritating substance, which seems to be absorbed with nearly the same readiness as mercury; perhaps because they both are peculiarly stimulating to the lymphatic system.

Case 27. A patient was admitted in September last, with several scrofulous indurations of the glands of the neck; medical treatment, with various remedies, had been previously resorted to with very little success. A blister was placed around the neck, the sur-

face of which was dressed with an ointment containing a drachm of iodine to the ounce of cerate with good effect.

From the preceding remarks and cases, selected from a number of others, the following corollaries may be deduced:

1. That medicines applied to various parts of the body externally, provided they be placed in direct contact with the vascular surface of the cutis, produce similar effects in doses but little larger than when they are made to act directly upon the gastric mucous membrane.

2. All medicinal substances have a peculiar affinity for certain organs or tissues, which is entirely independent of their immediate action upon such parts.

3. That violent irritants or escharotics rarely produce any general effect, although this sometimes occurs.

4. All other articles of sufficient activity may be used, provided the cutis be not too highly inflamed; when the latter is the case, soothing applications are in the first place necessary, or no absorption will take place.

5. The endermic medication is peculiarly useful in cases of extreme gastric irritability, and when it is important to modify morbid actions without impairing the integrity of a vital organ.

ARTICLE XII.—*Case of Aneurism of the Arch of the Aorta. By* ROBERT W. HAXHALL, M.D. *Richmond, Va. In a Letter to one of the Editors.*

Among "the numerous ills which flesh is heir to," there are few which occasionally present more difficulty in their diagnosis than aneurism of the arch of the aorta. Several of its prominent symptoms being common to other thoracic diseases, it is not a matter of much astonishment that we should sometimes overlook the nature and extent of the affection we are called to combat; and our astonishment must still be less when, as now and then happens, those symptoms which we call *pathognomonic* are entirely absent.

With these remarks, I shall proceed to the relation of a case which recently came under my observation, freely acknowledging, that aneu-

rism of the aorta was not even *suspected* until a post mortem examination revealed to us the secret. I regret that I omitted to take notes of the case during its continuance, but as my attendance lasted only for a few days, and my visits were frequently repeated, I am confident that the present report is made with accuracy.

On the 5th of March I was requested to visit Elsie Prior, a labouring woman of colour, and on repairing to the bed-side of my patient, I was made acquainted with the following brief history of her case. She stated that about six months previously she was attacked with the symptoms of a common cold, attended with fever and some difficulty of respiration, which had gradually increased; that having seen many people readily recover from a cold, and willing to submit to the prescriptions of a few old women who occasionally visited her, she hoped that it would by degrees wear off; but having been disappointed in this expectation, she had at last consented to apply for medical advice.

About a week previous to my being called in, she had been seen once by a practitioner of our city, but had received no further aid until the writer was desired to visit her. The gentleman alluded to prescribed a purgative and a blister, she at that time complaining of pain in her right side: these remedies afforded her some relief.

At the time I saw her, and indeed during the continuance of the disease, she remained entirely free from pain, complaining only of an increased difficulty of breathing, attended with a gurgling or hissing noise, and a very copious expectoration of semi-transparent, viscid mucus; her pulse continued tolerably full, soft and regular; and ranged between 85 and 92 beats in the minute; her skin was comfortably warm, and her tongue slightly coated. These symptoms continuing for two or three days without any abatement, and thinking that I might have mistaken the nature of the disease, which I regarded as an aggravated case of chronic bronchitis, I requested a medical friend who had spent some time in Edinburgh, and who had there an opportunity of using the stethoscope to a considerable extent, to visit my patient with me and apply the instrument. He agreed with me as to the nature of the disease, giving it as his opinion also, that the patient laboured under extensive emphysema of the lungs, together, as he thought, with a slight dilatation of the auricles of the heart. The hand applied to different parts of the thorax detected no pulsation, except over the region of the heart; nor

was any variation from a state of health visible to the eye, in the rising or falling of the ribs.

The existing symptoms then plainly indicated to my mind a chronic bronchitis; they were all indeed such as we should expect to meet with in an individual labouring under that disease.

The treatment was commenced in accordance with this view of the case, and consisted in the free application of the ointment of tartarized antimony upon the chest, mucilaginous and demulcent drinks, together with expectorants, mild sedatives and the balsams internally. This treatment was persevered in, without producing any other alleviation of the symptoms than a slight diminution in the frequency of her fits of coughing. A few hours before her death, stimulants were resorted to, more with a view of leaving no probable means of relief untried, than with even the hope that they would prove of service. Our attentions and remedies were of no avail, and on the evening of the 12th of March the patient quietly breathed her last.

On the following day, nineteen hours after her demise, we proceeded to inspect the body. Upon raising the sternum and introducing the hand, a large tumour came immediately in contact with it, which was soon discovered to be closely connected with the heart. This viscus and its unnatural appendage, together with several inches of the descending aorta and a portion of the trachea, with its bronchial divisions, over which the tumour rested, and to which it adhered, were carefully separated and removed. The lungs did not appear to collapse in the slightest degree, and exhibited throughout their entire structure an emphysematous condition; the existence of bronchitis was not discoverable, but a small quantity of purulent matter (wholly different from that expectorated during life) was squeezed out from an inconsiderable portion of the right lung, which appearance was observed in no other part of these organs. The contents of the thorax, which had been removed, were taken to my office and leisurely examined.

The disease proved to be an aneurism of the arch of the aorta, of enormous size, and of the kind denominated "true aneurism." Suspended in a perpendicular direction, its horizontal diameter measured four and a half inches, and its vertical, three and a fraction: these measurements giving its longest diameters. The character and formation of the arch seemed to be completely lost in this mass of diseased structure. The aneurism was now opened,

and the coats of the aorta presented a healthy structure for about two inches from its commencement; at this point the disease appeared abruptly to commence. The coats of the vessel at the part implicated in the aneurismal affection, were considerably thickened, and lined with consecutive layers of organized fibrine, giving to each side of the arch a thickness of from half an inch to an inch. These layers were raised to a small extent, and exhibited disease of the internal coat of the aorta; all its coats had certainly partaken of the dilatation. The arteria innominata, the left subclavian and carotid arteries, preserved their healthy structure. A small portion of the trachea, with its bronchial divisions, closely adhered to the tumour, diminishing of course the diameter of the former, when pressed upon by the latter. No other part of the body was examined.

Remarks.—Upon a careful consideration of the circumstances attending this case, I am almost satisfied that no one could have given a *certain* diagnosis, however much he might have been inclined to *suspect* that condition of things which dissection afterwards exhibited.

The entire absence of pulsation at the top of the sternum, as also of that peculiar sound called "bruit de soufflet," as heard through the medium of the stethoscope, as well as the murmur or thrill sometimes perceptible above the region of the heart, were sufficient to lull any suspicion we might otherwise have entertained as to the nature of the disease; the history, too, which was given of the commencement and continuance of our patient's complaint, tended to confirm the diagnosis which had been pronounced. Beginning, as it did, with symptoms of inflammation of the lining membrane of the bronchial ramifications, attended with active fever, pain, cough, and at first with but comparatively slight difficulty of respiration, I was hence led to believe that the existing symptoms depended upon a chronic inflammatory state of the above membrane. The freedom from pain also which she enjoyed after its having existed at the commencement of her attack, tended to confirm such a belief. Her extreme difficulty of breathing was accounted for upon the supposition, that the great quantity of mucus which was expectorated, particularly upon the accession of every fit of coughing, had served to obstruct and choke up the bronchial ramifications, and the air cells of the lungs. The entire absence of pulsation was no doubt owing to the great thickness of the sides of the aneurism; while there still existed sufficient room for the blood to flow equally on, thus preventing any irregularity of the pulse or materially dimi-

nishing its fulness. Dissection having revealed the morbid condition of parts already related, all the symptoms are readily referrible to them.

Believing that the history of this case might not prove either uninteresting or uninstructive, I have ventured to claim a place for it in the North American Medical and Surgical Journal.

ARTICLE XIII.—*Case of Fractured Cranium, with considerable depression, successfully treated without resorting to the trephine. By* THOMAS F. DALE, M.D. *of Pittsburgh, Pennsylvania; in a letter to* DR WILLIAM DARRACH, *of Philadelphia.*

The following case of fractured scull with depression having interested me much, I send it to you as copied from my notes. If you deem it of sufficient importance and interest to have a place in the "North American Medical and Surgical Journal," you will please hand it over to one of the editors.

March 5th, 1830. Philip Black, aged nine years, was assisting his father in a coal pit when part of the roof fell in upon him; he was dragged from beneath the slate, stone, &c. by his father and taken home. On the forehead, over the right eye, there was a wound about an inch and a half in length, but penetrating no deeper than through the soft parts. On the left side of the head, near the posterior superior angle of the parietal bone, there was a wound in the scalp of a tripedal form, with edges much lacerated; the scalp was torn up from the cranium for more than an inch in the direction of each flap. The cranium was fractured at this part, and driven in so as to form a depression sufficiently large to admit the end of the thumb. The points at which the external and internal tables of the bones were fractured did not correspond, a much greater portion of the latter than of the former being separated.

The wound was filled with coal dust, dirt, and small pieces of slate, and between the cranium and its depressed portion, under the edge of the former, a piece of slate or soap-stone, of the size of a small hickory nut, was wedged in, and so firmly fixed as to require considerable time and force to extract it. From this, some idea

may be formed of the degree to which the bone was depressed. The father stated that there had been considerable bleeding, but at this time the hemorrhage was not great.

Notwithstanding the violence of the blow, and the great degree of depression of the bone, the boy was perfectly sensible and rational, no symptom of compression existing; the pulse was very slightly affected; he complained of no headache or sickness of stomach. In the absence of all symptoms of compression, though the depression was very great, we did not feel justified in trephining, an operation at no time free from danger, and too often resorted to on trivial occasions. The wound was cleaned, as far as practicable, of all extraneous matter; the edges of the scalp were brought together by adhesive strips, and covered with light dressings. The patient was directed to be kept perfectly quiet, and to make no exertion by moving or talking, the room to be darkened, and a rigidly low diet to be observed. To take sulphate of magnesia.

March 6th, morning. Had been somewhat restless during the night; has fever, but is rational. Was bled pretty freely, and ordered another dose of sulphate of magnesia. Diet and regimen to be continued.

Afternoon. No fever; pulse natural; complains of no pain excepting in one of his legs, which was slightly bruised; independent of this, says that he is easy and comfortable; the dressings were not removed.

7th, morning. Slept very well last night; has no fever or pain; pupil a little dilated, but this may be owing to the room being somewhat darkened. The dressings were removed; part of the scalp has united by the first intention between the strips; in other parts there is a considerable discharge of pus. Similar dressings as at first were applied: there being some little heat and dryness of the surface; ordered nitrous powders. Diet and regimen as before.

Afternoon. Was sent for in haste, as the patient was said to have high fever and great pain in his head. On my arrival I found his pulse a little excited, but not amounting to fever; believing that the pain he complained of in his head did not arise from inflammation, (as there appeared to be no unnatural heat about, or determination of blood to, the head), but from the position in which he lay, resting somewhat on the wound, I simply turned his head around, after which he felt easy. The nitrous powders seemed to distress his stomach and bowels, and were therefore discontinued.

8th, morning. Slept well through the night; his mind does not wander during sleep, and when awake, he is, as he has been from the first, entirely rational and sensible; feels very comfortable; pulse natural; skin cool and pleasant; is quite cheerful, and says he is "very well," is anxious to get out of bed; this was positively forbidden. Diet and regimen continued.

Afternoon. No material change.

9th, afternoon. Patient slept well during the night; no change as to symptoms; condition of the mind, pulse and skin remaining good. The wound was again dressed; the discharge is lessened, though still considerable; the scalp is not tumid nor swollen, and in every way the wound looks favourable. Bowels not having been opened for two days, he took sulphate of magnesia.

10th and 11th. No material alteration; patient continues to do well.

16th. The wound in the scalp is pretty generally healed, except at the point where the three flaps unite, from this opening there is an increased discharge, which for a day or two past has been dark coloured, from the admixture of coal dust which had remained in the wound, and which it was found impossible entirely to remove. He has no pain whatever in his head; pulse natural.

20th. The wound continues suppurating, and small particles of coal dust are occasionally discharged.

28th. Patient continues to do so well, and nothing of any particular moment occurring, it has not been thought necessary daily to detail the circumstances of the case. Several small pieces of coal and other matter have come away with the discharge from the wound, which latter is now healed, excepting at one point, where the three flaps meet. The patient experiences no painful or other unpleasant feelings of the head.

30th. Patient is permitted to sit up occasionally through the day.

April 3d. He has been walking about for a day or two.

5th. To day he walked down to see me, a distance of nearly half a mile, and appears to experience no ill effects from it, though had I known of his intention, I should certainly have forbidden it.

17th. The family removed to the country on the 6th, and I heard nothing of the patient till to-day, when I learn that he has continued to do well, notwithstanding a fall which produced a wound laying open the cicatrix in the scalp for more than an inch, and extending beyond it for a considerable distance; it is now, however, nearly healed.

I make no comments on the above case; I have endeavoured to lay down in a plain and simple manner the exact facts. Each will form his own judgment as to the practice in this, and also the necessity and propriety of trephining in similar cases of fractured cranium with depression.

ARTICLE XIV.—*Cases illustrative of the beneficial effects of a combination of Tartarized Antimony and Opium in Rheumatism. By* JAMES B. FINDLAY, M.D. *of Circleville, Ohio.*

D. Smith, a labourer, of athletic frame, temperate habits, and previous robust health, aged about forty, was attacked, April 11th, 1829, by pneumonia, accompanied with much fever, which was treated by an emetic, repeated venesection, cathartics, small doses of tartarized antimony, and the vapour bath. He was subjected to this active treatment six days, when his disease was removed. In about five days subsequently he was able to recommence his labour, but with abated vigour, in a stone quarry four miles from Circleville, where I reside.

April 24. A messenger came for me to visit Smith, urging me to the utmost haste, as he was suffering great pain. I rode with all convenient speed, and about 9 o'clock was with him. I found him on his chair before the fire, with his hands applied to the outside of both his thighs, pressing upon them and rubbing them up and down, complaining at the same time bitterly. He had been attacked while in bed, an hour or two before day, with violent rheumatic pain in the lumbar region of the spine, in consequence of which he was driven from his bed and had taken his seat where I found him. Since rising the pain had progressed downwards to his hips, knees and ancles, right and left; and now he was tormented with it throughout both extremities. There was little, if any, preternatural excitement of the pulse, or heat or dryness of the skin; indeed no evidence of constitutional derangement. I forebore to bleed him, in consideration of the absence of febrile symptoms, and of his having been much reduced by the treatment of his previous disease;

but prescribed ten grains of tartarized antimony dissolved in as many spoonfuls of water, with the addition of 130 drops of the tincture of opium, one-tenth of which was to be taken every hour. Having staid with him until the second dose was taken, from which he thought he felt some abatement of his distress, I left him, with a request that he would send me word if he should not be shortly relieved. My first information of the result of the prescription was from the patient himself, who called upon me several days afterwards and told me that he had gradually become easier while taking the medicine, and by the time he had used it all his relief was perfect; he had since had no return of pain, but felt entirely well. No nausea had been produced by the tartarized antimony, but considerable perspiration and copious alvine evacuations occurred towards the close of the course. He continues in health to the present time.

August 20, 1829. I was called to visit a patient at the house of Mr Mouser. While attending to the case in hand my attention was directed to Mrs Mouser, the mother of four or five children, and then in the fifth or sixth month of utero-gestation, who was going about her house half bent. She informed me that her uncomfortable posture of body was assumed, on account of pain in her back, with which she had been afflicted for a day or two. It had been gradually growing worse, but she had as yet been unwilling to take any medicine for its relief. At her request I bled her, but without producing any sensible benefit.

22d. Visiting my patient in the morning I found Mrs Mouser in bed. She was no longer able to move about, but complained of having pain, as she thought, in every joint of her body, requesting me, if I had hopes of relieving her, to prescribe. I gave her pills made according to the following formula: antimon. tartar. grs. ix.; pulv. opii. grs. iv.; syrup. simpl. q. s. *m.* f. pil. no. vj., one of which I directed to be taken every two hours. The same day, about sun-down, after she had taken four of the pills, she left her bed and was going about *erect*, attending to her domestic concerns. She expressed her astonishment at the change in her feelings, having little or no sense of pain remaining. I directed her to take the other two pills between that and bed time.

Sunday 23d. I was gratified to meet Mrs M., morning and afternoon, at church, distant about a quarter of a mile from her residence; thus walking a mile in going and returning. She professed

to be entirely relieved from her rheumatic affection, and continued so as long as I had an opportunity of seeing her, which was for several weeks.

Sometime after the occurrence of these cases, I received the April number of the North American Medical and Surgical Journal, which I had not before seen. In this I was pleased to find, in the summary of medical intelligence, the notice of two cases of rheumatism successfully treated by Professor LALLEMAND, whose *efficient* prescription, after the failure of other and more ordinary remedies, was tartarized antimony in grain doses, taken from four to six times a day, and continued in one instance seven, and in another nine days. The greater promptness of relief following my prescription I attribute to the addition of the opium; which alone, in *heroic* doses, has frequently proved sufficient for the cure of inflammatory affections; and, in combination with large doses of the tartar emetic, has appeared to me at the same time to be deprived of all undue stimulating tendency, while it enables the stomach to bear without disturbance the presence of its otherwise annoying colleague. It is important, with a view to the same object, to present the medicine to that organ in as small a compass as possible. From different experiments I am induced however to believe, that the tartar emetic in a concrete form, is more nauseating than in a saturated solution, and that the vinous is the best. My favourite prescription in the different phlegmasiæ is the following, viz. vin. tart. ant. ℥ij. tinc. opii. ℥jss. ℥ij. *m.* of which ℥j. is to be taken every hour if the stomach should not reject it; but reducing the dose if necessary, or lengthening the interval to two or three hours, or until the nausea of the previous dose has subsided. In many cases of irritative and inflammatory cough, in threatened mammary abscess, in the ephemeral fever of lying-in women, commonly called the weed, and in phlegmasia dolens, in conjunction with the use of sugar of lead lotion, I have been delighted with the great efficacy of this combination. It is certainly a medicine which will relieve the feeling and remove the cause of acute pain in a greater variety of cases than any other that has yet been used for these purposes.

ARTICLE XV.—*Some Observations on the use of Charcoal in Constipation of the Bowels.* By SAMUEL GEORGE MORTON, M.D. *One of the Physicians to the Philadelphia Almshouse Infirmary.*

The frequent success with which charcoal has been prescribed in constipation of the bowels, has led me to use it in a great number of cases, both idiopathic and symptomatic. I must acknowledge, however, that in some of these cases the medicine gave no relief, and in one instance, at least, did positive injury.

To the latter I chiefly wish to call attention on the present occasion.

In the autumn of last year I was consulted by a lady for a troublesome costiveness, occurring about three weeks after confinement. This condition of the bowels was not accompanied with much pain, but was rather marked by languor and despondency. The nurse who was in attendance had administered a number of the ordinary cathartics, especially castor oil, with temporary relief; but the bowels constantly resumed their sluggish state, after the active effects of the medicine had subsided.

Under these circumstances, I resorted at once to finely levigated charcoal; of which a heaped teaspoonful was directed to be given four or five times in the day. After this plan had been continued for five days, my patient assured me that she was no better, no evacuation having followed the use of the medicine. I now ordered the latter to be given in greater quantity. The disease, however, increased, the evacuations being very infrequent and painful. Confiding still in the charcoal, I was unwilling to abandon its use, and conceiving the quantity given inadequate to the purpose intended, I directed a tablespoonful three or four times per diem, and to be alternated with castor oil, calomel, the common anti-bilious pills, &c.

The preceding trial of the charcoal embraced a period of four weeks, during which time the patient had taken many ounces; she now declared to me her conviction that the medicine did not agree with her, inasmuch, as since she commenced taking it her disease had increased; that her appetite had left her; her strength had diminished; and that her evacuations consisted of indurated balls, which were voided with extreme pain.

I at once discontinued the charcoal; but the effects of it were not so speedily removed. The large quantities which had been admin-

istered the few previous days, remained in the bowels, and gave rise to a train of symptoms agonizing to bear, and painful to witness. The indurated masses of fecal matter had increased with the increase of the medicine, which now, in place of simple constipation, had induced real obstruction. The endeavours to void these masses, though continued for many hours, and attended with constant tenesmus, were unavailing; and the use of various enemata gave no relief. Suspecting the existence of hemorrhoides as a cause of the difficulty, an examination was made, in which no trace of that disease was detected; but the real cause was now manifest, in the existence within the rectum of a great collection of an extremely indurated substance, which was ascertained to be charcoal. Suffice it to say, that it required the constant use of laxatives and enemata during forty-eight hours to dislodge these masses, which came away one after another with excruciating pain, compared by the patient to the throes of parturition. The balls when examined proved to be little else than charcoal, evidently compacted by the mucus of the intestines.

Candor requires me to state, that the medicine and the violent symptoms were thus got rid of together. I now changed the treatment entirely; directed two pills of castile soap of grs. v. each, to be given three times a day, with occasional small doses of the blue mass, and a light nutritious diet. The fecal scybala disappeared entirely, and my patient was restored to her usual health in a few days; requiring, however, for several weeks, the occasional repetition of the medicines just noticed. Air and exercise completed the cure.

It will be reasonably asked, why I persevered in exhibiting the charcoal after it evidently disagreed with the patient? To which I reply, that my confidence in the remedy, from previous use of it, scarcely permitted me to suspect its deleterious effects; and again, I had the testimony of Dr Daniell,* of Charleston, S.C. that the formation of the charcoal into balls in the intestines, was an essential part of the curative process in constipation. His words are these:

"In its commencement, constipation is usually unattended by fever: in its early stages acidity usually prevails in the stomach. The secretions of the primæ viæ are chiefly of slime, which is frequently

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* Philad. Jour. of Med. & Phys. Sciences, Nov. 1823.

very tough and thick. The first evacuations are composed mostly of it. The charcoal unites intimately with the slime, forming balls varying in size from half an inch to two or three inches in diameter. The duration of the disease appears to depend in a great degree upon the quality of the slime, from its continued secretion. When the quantity is great, the balls formed with the charcoal are sometimes so large as to require some more active cathartics to expel them."

Dr DANIELL, after some additional observations, gives a case of constipation treated on the preceding principle. The disease was considered to consist chiefly in an excessive secretion of mucus, to neutralize which enormous doses of charcoal were given, with results analogous to those already described by me, though less violent, owing, perhaps, to his having given frequent doses of blue mass, castor oil, &c. His patient was under treatment about a month, and then experienced a slow convalescence.

With all deference to that experienced practitioner, I do really believe that, in my case at least, the charcoal protracted the cure, and aggravated the symptoms.

It is obvious to me that the medicine first excited an increased secretion of mucus, and then united mechanically with it, forming indurated masses extremely difficult to expel, and an hundred fold more irritating than the vitiated mucus itself.

It will be said that the blue pill was given to correct the mucus secretion. Then why give the charcoal at all, inasmuch as the mucus can be evacuated with infinitely more ease without it. There are several medicines which will, in some constitutions, unite with this mucus and form scybala; among them is magnesia, which some persons, for this very reason, cannot take without injury. It is no part of my design, on the present occasion, to enter into the treatment of constipation; I only wish to point out what appears to me to be an error in medical practice; and to record my conviction, that whenever charcoal is observed to form scybala, it should be at once discontinued.

ARTICLE XVI.—*Diseased state of several of the tissues of the arm and forearm, resulting from venesection badly performed. By* WILLIAM WOODSON WADDELL, M.D. *of Athens, Georgia.*

It is not uncommon to meet with, or find on record, cases where injury has been done to the veins, absorbents, nerves, tendons, fasciæ, and indeed all the tissues of the arm and forearm, by awkward venesection. But it is rare, I believe, to find more than one of these parts involved at the same time. The following case is presented on account of its supposed singularity as regards the number of elementary textures concerned.

I was called in January 1830, to visit a negro man aged about forty years, suffering with catarrhal fever. Minute examination discovered that his fever was only symptomatic of local injury done to his arm a day or two previously, by being badly bled. The following symptoms were present. Inability to use the arm; an ugly gaping wound in the median basilic vein, in the act of suppuration; hard swelling around the wound for an inch in diameter; midway betwixt the elbow and carpus, much diffused swelling. Another swelling, but more in the form of a circumscribed tumour, about two inches in diameter, existed at the inmost edge of the biceps flexor cubiti muscle; both of the latter were of moderate firmness and very painful to the touch.

The ordinary treatment was at first made use of. Venesection to the amount of ℥xx, followed by a mercurial purge and saline laxative, produced no sensible amelioration of the symptoms. Attention was further directed, on the second day, to the removal of the fever by antimonial diaphoretics. No alteration of consequence took place, and prescriptions were thenceforth made exclusively to the local disease; a mild cerate was applied to the wound; and frictions with ammoniated liniment on the swollen parts were diligently kept up for twenty-four hours. It became, in a short time, evident that the latter was too stimulating, and the saturnine lotion was substituted, which produced a distinct chill in each instance in which it was applied, but nevertheless soon reduced the swelling, and lessened the inflammation, pain, &c. The use of the ammoniated liniment was now resumed, and the disease apparently abated, so far as to induce me to discharge my patient.

Two days afterwards I was again called to see him, and found

the following additional symptoms. Great disinclination to use the limb; the little and ring fingers almost paralysed; a hard tendonous cord occupying the usual course of the great vessels, from the elbow upward to the axilla; from the internal condyle extending obliquely across the forearm, in the course of the pronator radii teres muscle, the integuments were very hard and shrivelled, and presented a most excellent illustration of the appearance of dry mortification. The insertion of the above named muscle was very abrupt and distinguishable through the skin, presenting a swollen appearance. To have decided whether the muscle itself was in a pathological state, I should have inquired into his power of pronating the hand; I do not recollect, however, to have discriminated betwixt this particular loss of power and his general inability to move the limb. The ammoniated liniment was again directed, and passive motion prescribed for fear of anchylosis. I again dismissed my patient in a few days, with a hopeful prospect of recovery.

I have no remarks to make of any length on this case. I would, however, take the liberty of referring the reader to Mr Abernethy's first case of inflammation of the absorbents, detailed in his surgical works under the head of "Ill Consequences of Venesection." It will be seen by a comparison of the two cases, that the absorbents were inflamed in the one under review, provided Mr Abernethy's pathology be correct, and it appears very plausible. Paralysis of the two fingers would seem to point out an injury of the nerves. Whether the lancet could in any way have reached the ulnar nerve, or whether the filaments of the internal cutaneous nerve, which sometimes reach the hand, were in the present instance unusually large and extended in their distribution, it is impossible to say. I have stated the strange appearance of the pronator radii teres muscle, as its course was displayed under the integuments; as regards the pathology of this part of the case, I am at a loss to say whether the muscle itself was affected, or whether the superficial absorbents (a few of which we are told pursue a course somewhat similar to that of the muscle) caused the appearance. I saw no symptom to induce a belief that the vein, cellular tissue, fascia, &c. were implicated in the disease.

Article XVII.—*Two cases illustrating the use of the Uva Ursi. By* William Woodson Waddell, *of Athens, Georgia.*

The uva ursi has been long known to physicians. It has probably been much overrated as a therapeutical agent, but like most medicines of the kind, it has also been undervalued. I present two short cases of disease in several sections of the genito-urinary mucous membrane, in which it was truly beneficial.

Case 1. A gentleman applied to me in February 1829 for advice, being very much troubled with a chronic gleet of twelve years' standing, the sequel of a gonorrhœa. A cold, succeeded by fever, and the development of slight inflammation of the bladder, were treated in the usual way, and the use of the uva ursi immediately commenced with. It was administered at first in infusion and afterwards in decoction to the amount of ℥ii in substance daily. A perfect cure of every disagreeable symptom was the early consequence of this method of treatment, and this gentleman has ever since been entirely free from the loathsome disease to which he had been so long subject.

Case 2. I was requested to visit a lady thirty years of age, suffering under chronic stillicidium of blood from the uterus. She had been more or less subject to abortion ever since her marriage, which took place six or seven years since; and in consequence of the violence thus frequently done to the connexion betwixt the ovum and uterus, a continued disposition to hemorrhage from the uterine capillaries was established. Abortion had taken place in the early stage of pregnancy, about four months before I saw her, and the stillicidium of blood had been nearly constant ever since. Her strength being much exhausted at the time of my first visit, the routine practice of venesection was forbidden, and the common astringent pill of lead and opium, with the use of the tampon soaked in lead water, were prescribed. Great irritability of the stomach succeeded the use of the pills, and nausea, with efforts to vomit, were so constant, that a continuance of the prescription was utterly useless. During the pursuance of a temporising plan, every symptom became so much aggravated, that a more prompt method of procedure was loudly called for. The atonic state of the uterine capillaries appeared to me now to be produced or kept up by leucorrhea. Inquiry proved my conjecture right, and the whole plan of treatment

was exchanged for one more active and energetic. A full emetic of ipecacuanha was exhibited, not with a view to its alleged specific control over hemorrhage, but for the purpose of quieting the irritability of the stomach. A large blister was applied above the sacrum and kept discharging for several days; the tampon was dipped in a strong solution of common salt, in place of the lead water; and with this treatment was combined the internal use of the following prescription:

℞. Foliorum uvæ ursi ℥i. Infunde in aquæ bullientis O.i et cola.

℞. Balsami copaibæ ℥ii.

Tincturæ lavendulæ compos. ℥ii. m.

Cujus sumat guttas xx quater in die ex infusione uvæ ursi ut supra ℥ii.

With the above course I had every reason to be delighted. In three or four days every unpleasant symptom vanished; morbid discharges of every kind ceased; the healthy tone of the stomach was restored, and muscular strength rapidly increased. My patient, from occasional confinement and continued ill health of four or five months continuance, was restored in a week to a state of perfect health.

A case of diabetes in a child four years old, has occurred to me since treating the above. Dr Ferriar's method with the uva ursi and peruvian bark was tried in this case, and to his original prescription a small portion of denarcotised opium was added. Some improvement took place in a week or two after the commencement of the course, but it cannot be called a cure.

In a case of involuntary emission of semen, I have entirely failed to do any good with the uva ursi.

Quarterly Summary

OF

Medical and Surgical Intelligence.

I. ANATOMY.

1. *Enormous Stomach.*—At a sitting of the Royal Academy of Medicine of Paris, January 12th, 1830, M. Yvan, surgeon in chief of the *invalides*, presented an enormous stomach. It was that of an invalid who had died with vomiting, and who had a very large hernia. The length of the greater curvature of the stomach was three feet; that of the lesser was eighteen inches; its circumference at the largest part was twenty inches, and seventeen at its inferior third; this part exhibited a depression occasioned by the pressure of the inguinal ring, through which the inferior third of the stomach had passed, together with the great omentum, the small and the large intestines, with the exception of the cœcum, the iliac portion of the colon and the rectum. On the surface of the stomach were to be seen muscular bands, extending both lengthwise and circularly.—*Jour. de Chim. Med. April.*

2. *Membranes of the Brain.*—Dr Martin St Ange publishes in the Journal Heb. de Médécine, January 23, 1830, some remarks on the Anatomy and Physiology of the Membranes of the Brain. We find the following in the *Archives Générales* of the same month.

This gentleman does not admit that the serous membrane of the brain penetrates into the cavity of the ventricles. He supposes it to begin at the occipital foramen, from whence it passes upon and invests the whole cerebellum. Having reached nearly to the posterior and free edge of the corpus callosum, and a little before passing the transverse slit that separates the cerebellum from the cerebrum, the arachnoid is observed to form a small fold of a triangular shape; one of the sides of the triangle, the anterior one, corresponds to the junction of the venous trunk of the vena galeni, which commonly debouches in the right sinus, or in the inferior longitudinal sinus; and when this happens to be wanting, into the superior longitudinal one. For the openings through which the veins pass, the arachnoid is disposed as in all other openings required for the transit of nerves and blood-vessels; that is, it reflects itself on the venous trunks by forming a small fold; the arachnoid now returns upon the inferior sinus, which it completely invests, goes to the corpus callosum, to the inner face of the anterior cerebral lobes, and from thence to their exterior convex face, to reach subsequently their whole posterior and inferior surfaces, and thus to rejoin that portion of the same membrane which covers the base of the cerebellum and the tuber annulare.

The pia mater alone penetrates into the ventricles, which it partially lines, after having formed the tela choroidea, and enveloped the vessels that constitute the plexus choroides. Near the calamus scriptorius it has an oblong and irregu-

lar opening, most frequently exhibiting a vascular plexus in front of it. This is the opening at which it is reflected, and by which it penetrates into the posterior ventricle; and it is through this sort of sieve that the fluid filtrates, so to speak, from the ventricles into the sub-arachnoid cavity of the medulla.

II. PHYSIOLOGY.

3. *Vaccine Virus.*—At a sitting of the Institute of France on the 8th of February, Dr ROBERT, of Marseilles, addressed to that body the account of thirteen experiments, tending to prove that the virus of variola and varioloid, combined with cow's milk, when used for inoculation, produces only a local eruption, similar to that of vaccina, which, in his opinion, proves the a priori existence of a variolous germ in the vaccine vesicle, and that the vaccine disease originated in the accidental transmission of the variolous virus from man to the cow's teat, which is the cause of its benign nature.—*Jour. de Chimie Med. March* 1830.

4. *Metallic Silver detected in the Tissue of the organs.*—Mr WEDEMEYER, of Hanover, relates that a person having taken nitrate of silver for the cure of an epilepsy, after being cured of that disease, and having acquired the bluish colour common to such as take that medicine, died subsequently with hepatitis. On examination after death, the whole of the internal organs were found to have undergone, in various degrees, the same change of colour. Mr WEDEMEYER subjected the choroid plexus and the pancreas to an analysis, and extracted from them a *notable* quantity of metallic silver.—*Ibid.*

5. *The Bile.*—M. HENRI BRACONNOT feels authorised to conclude from his experiments,

1. That the bile is a real soap.
2. That picromel contains, 1, a peculiar acid resin, which constitutes its largest portion; 2, margaric acid; 3, oleic acid; 4, an animal matter; 5, a very bitter matter of a very alkaline nature; 6, a colourless saccharine principle, which becomes purple, violet and blue by sulphuric acid; and lastly, 7, a colouring matter.—*Ibid.*

6. *The larynx.*—Dr ALBERS, of Bonn, has published in Graefe and Walther's Journal, an essay on the Physiology of the Larynx, an abstract of which we shall proceed to lay before our readers.

M. MAGENDIE, relying on the results obtained in his experiments, was led to believe that the epiglottis was charged with functions other than that of serving to guard the rima glottidis in deglutition—for he found that dogs, in whom the epiglottis had been removed, could swallow with as much facility as before the operation. M. MAYER, regards the epiglottis as an organ of voice (phonation.)

Dr ALBERS, after hinting at the abundant supply of vessels, muscles, and nerves which distinguishes the larynx, speaks of its very great sensibility and exposure to the causes which might interrupt or destroy its functions, and from which, nevertheless, it escapes. It may be subjected for years to violent paroxysms of coughing, which return every day and every hour, and yet it resists; while the physician directs his views to the lungs, heart, &c. rarely paying any attention to this, which is one of the most excitable of the organs.

Dr A. remarks, that the larynx accommodates itself as easily to the most rapid changes in its state, as to the slowest and most chronic modifications. The cough, the dyspnœa, and even the alteration of the voice, are not always proportioned to the extent of the lesions by which it is affected; whilst in some cases, we detect a scarcely visible ulceration, where the cough and other symptoms had led us to expect very extensive disorganization. The diseases of the larynx, whether acute or chronic, are difficult in respect to an accurate diagnosis. The

signs of ulceration and inflammation are so similar, that it is often impossible to distinguish them from each other with absolute certainty. Another peculiarity of the laryngeal affections is, that we ordinarily see the severity of the symptoms diminish when they have attained to a certain degree of intensity. Numberless observations have proved, that in wounds and sudden and violent irritations of this organ, the excitement rapidly ceases when it has reached a certain point, and there stops. It has never been decided, remarks Dr A., whether the larynx could resume its functional exercises after such wounds; whether they would unite, or whether, after portions of the skin, cartilages, or of the mucous membrane, have been removed, they would be regenerated, mediately or immediately. The experiments that are related in his paper were made for the purpose of settling these questions.

Experiment 1. In a middle sized dog, six months old, the skin was divided longitudinally, and the thyroid cartilage perforated; the inferior portion of its left half being removed. The wound was not dressed; the animal being let loose, he breathed with a rattling through the opening; was so anxious that nothing could make him either growl or bark. In the evening he ate as usual. Was quiet for two days, breathing occasionally through the wound, which was two lines long by three in width. It began to suppurate on the fourth day, and he could be now irritated, so as to make a kind of a hoarse hissing sound through the opening, although he could not be made to bark. After the third week the wound was cicatrized, and his voice had recovered its natural tone, except that it was somewhat hoarser when he barked violently.

In *Experiment* 2, the same dog was subjected to the same operation, excepting that another piece of the thyroid cartilage was removed; he recovered as well as before.

In *Experiment* 3, a long time after the second, the whole larynx was removed from the same dog, down to the last ring of the trachea. He died in an hour, probably from hemorrhage.

Experiment 4. From a dog six months old, he removed the larynx, from the trachea to the insertion of the epiglottis; no considerable vessel was wounded, the dog breathed as before the operation, and ran off to play with other dogs. On the sixth day the anterior surface of the œsophagus suppurated, and he could no longer swallow, because his food escaped by the external wound. He died on the ninth day.

Dr A. never repeated the third and fourth experiments, but the first and second, several times. He kept the animals several months, and when they were killed and examined, he found that the cartilages were never reproduced, but the neighbouring parts had formed a dense tissue of cellular matter, clothed with a softer structure that supplied the place of the mucous membrane.

In all the experiments, though the animal was abandoned to its own resources, no example occurred of a fistulous opening in the larynx; nor was there any case of the inflammation said to be so readily produced in the mucous membrane of the organ, or in the cellular tissue between the mucous membrane and the cartilages. He never found that any of the animals were low-spirited for more than a day, nor had they any morbid symptoms; but on the other hand, when the pharynx is not injured, the dogs eat as well as before, and play with other dogs, which may serve to show that when a wound of this part is not very extensive, a serious disease is not likely to arise from it.

7. *Transfusion.*—Dr J. F. Diffenbach's physiological researches on transfusion of the blood were published in Meckel's *Archiv. für Physiologie*, and are to be found in the French *Archives Générales* for January 1830.

Dr D. examines the relative merits of the two modes of transfusion; that by direct transfusion from the vessels of one animal, through a tube connected with the vessels of the other animal, and that by injection by the syringe. He prefers the latter.

He examines, 1. *The effects of immediate transfusion upon animals exhausted by a great hemorrhage.* He made a great number of experiments in

order to determine this question, but has related only eleven of them. "Having taken a small black lapdog, I exposed the left carotid, and having made a longitudinal incision into it, I allowed the blood to flow until the animal no longer exhibited signs of life; this state of apparent death was immediately preceded by violent convulsions, during which the pupil dilated and contracted by turns, until at last it remained immovable and widely dilated. While I was exposing the carotid, the jugular vein had been opened and filled with a small tube. An end of an artery about four inches long, taken from another animal, and to each extremity of which I had adapted a tube, was used for one minute, to convey blood from the carotid of another animal, of nearly the same size, into the jugular of the exhausted lap dog. During eighteen seconds pulsations were perceived in the artificial channel of communication; but they soon grew weak, and at the expiration of the period named, ceased entirely. The dog which furnished the blood seemed to grow rather weaker, and, on the contrary, the one that received it, seemed at first to respire a little; but the state of the pupils did not change, the heart beat very feebly, and scarcely any thing except very obscure undulations was perceptible. Gentle frictions on the body, made with a view to re-establish the circulation, were of no avail, and the animal soon died. Upon opening the body, I found the right cavities of the heart distended with coagulated blood: the left cavities contained blood that was semi-fluid, and of a colour not so dark. The lungs were pale and covered with brownish spots. The veins of the lower belly, the liver and spleen, were engorged with black blood, while there was only a very small quantity in the brain. This experiment was repeated on six other dogs of different kinds; on two cats, one young and the other old; on an old sheep; on a calf and a goat. It was followed by the same result in three of the dogs, in the young cat and the goat—that is, the animals died; while in the three other dogs, the old cat, the sheep and the calf, life was gradually restored. This restoration was always accompanied with profound sighs, alternate dilations and contractions of the pupil, involuntary escape of urine and stool, and sometimes even by profuse vomitings. The animals recovered their former health in from a few hours to three days.

This power to restore to life an animal nearly dead from loss of blood, was similarly noticed by Blundell, Prevost and Dumas, whose views Dr D. adopts, except that he cannot admit that transfusion is not very dangerous; he has often found it mortal in cases where no fault could be found with the manner of performing the operation.

Dr Diffenbach inquired into the effects of mediate transfusion, effected by means of a syringe, in animals exhausted by bleeding. He made a great many experiments of this kind, which are much easier to perform than the others. They were all made with blood freshly drawn, and still possessed of its vital warmth. The results were similar to those obtained in the former set, excepting that more animals were restored to life.

Dr Diffenbach also inquired as to how long after being drawn from the veins does blood possess the power of recalling an exsanguious animal to life. He finds that the vitality of the blood begins to diminish little by little, commencing at the third hour after its withdrawal from the vein, and that animals are more rarely recalled to life by infusing blood that has been sometime drawn; and that this revivification very seldom takes place when blood is employed that has been more than six hours exposed to the action of the atmosphere. This result is in opposition to that of Dr Blundell, who speaks of having reanimated dogs with blood drawn more than twenty-four hours.

He found that blood that had been dried and then dissolved in tepid water, could induce some signs of life, but never could produce a complete revivification.

He never completely succeeded in restoring animals by injecting the blood of another animal into their veins. They mostly soon perished with violent convulsions. Dr Blundell, however, says he did succeed in producing a complete restoration by injecting human blood into the veins of a dog.

After a great variety of experiments, in which he injected the blood of various

animals into the vessels of animals of a different species, he sums up the result as follows:

1. Blood kept for a long time in a fluid state by means of agitating it, and then passed through a linen strainer, is promptly mortal if injected into the vessels of an animal of a different species.

2. A large bleeding carried to deliquum diminishes the deleterious influence of the blood of another species of animal, which has been long exposed to the air, and thereby deprived of its vitality.

8. *Spontaneous Combustion.*—Professor DUPUYTREN says, that many authors have attributed the accident of spontaneous combustion to a combination of alcohol with the living solids; and this opinion they maintain without regard to the origin of the combustion, whether commencing primarily in the individual, or communicated to him from without.

M. DUPUYTREN, without denying that most of the poor subjects of this terrible phenomenon are given to hard drinking, formally denies that the combination of alcohol with the tissues is the cause of the burning.

M. DUPUYTREN seems to be addressing his class. "It has been denied," says he, "that any other than a spontaneous combustion could consume a whole body in a single night. I, like you, passed my youth in dissecting rooms, and perhaps more than any of you, I consumed my time in dissections; but that was thirty years ago, and subjects did not then abound as they now do; they were very difficult to get, we were obliged to rob the cemeteries, and it was still more difficult to get back the debris. It was thought better to get rid of them in another way, and we burnt them. For this purpose faggots were piled up in the chimney, and the remains of two, three, or four bodies placed upon them; a fire was made in the evening, and next day the whole was found to be consumed. We also took care to place the fattest pieces lowest, and the combustion was more rapid, more complete in proportion as there was a greater quantity of fat. But one night was always long enough for the entire combustion."

M. DUPUYTREN applies this practical observation to the consideration of spontaneous combustions. He knows of no instance of it in a lean dry individual: every one of the cases, without exception, occurred in extremely fat people.

If it be observed that the chamber in which a spontaneous combustion has taken place is found full of thick vapour, the walls covered with black carbonised matters; that there are commonly observed streams of grease on the floor, with some ashes, and occasionally fragments of bones, the sole remnants of a body shortly before organised, our remark will obtain additional credence. The above is an account of what is observed: here follows an explanation; and this is the way in which the facts most commonly take place.

A woman (it happens mostly to women) returns to her house after having taken a pretty strong dose of spirituous liquor. It is cold, and a fire is kindled; she seats herself on a chair, with a foot stove under her feet. To the coma produced by the spirituous liquors is added the asphyxia occasioned by the charcoal; the fire is communicated to the clothing; her insensibility is too great to permit her to feel pain; the clothes are consumed; the skin burns; the epidermis cracks open, and the fat melts and flows out; a part runs on the floor, and the rest serves to support the combustion; day comes at last and the whole is consumed.

This is the way that alcohol has been the occasional cause of combustion; it is by producing coma, and not by a pretended amalgamation with our tissues, that it acts upon the human body in this striking manner.

Dr D. cites the following reasons to show that combustion is never purely spontaneous:

In dissecting rooms it is common in warm weather to find the bodies of half putrid subjects surrounded with a phosphorescent light; but such subjects are never consumed.

A wretched woman, who was excessively fat, returned late one evening to her house, after having drank freely of ardent spirits. It was cold weather, and she

seated herself on a chair in the middle of the room. In the morning a thick smoke was observed to fill the whole chamber; streams of grease were observed on the floor, the chafing dish, some remnants of the chair, and a small quantity of ashes, were all that were found.

III. PATHOLOGY.

9. *Aortitis.*—A female cook, aged 34 years, enjoying ordinarily good health, with the exception of some irregularity in the menstrual flux, was attacked, in August 1829, with a vomiting and purging, followed by a slight pain in the right instep, which gave place at the end of three weeks to palpitations of the heart, which subsequently increased, particularly when the patient walked or ascended a stairs. From the same period she lost, at intervals, the free use of her limbs, and experienced severe pains in the left side of the chest, and the left arm. The patient appeared every moment to be on the point of fainting. She was removed to the Hotel-Diêu. On the second day after admission, she was attacked with the symptoms above described. Her face swelled considerably, her pulse became frequent and irregular, and subsequently slow and very feeble, and as the attack went off, it became again very frequent; her face regained its natural appearance, but remained somewhat swollen during the intervals of the attacks. There was habitual pain of the head. The pulsations of the heart were weak, without presenting any thing remarkable. On the third day she was bled twice, which seemed to render the attacks more frequent. Pills composed of the extract of valerian, injections of valerian, tepid baths and washes to the head of tepid water were directed. The fifth day after her admission, the patient was somewhat better; she had not had any attack for two days. She, however, during the night, was attacked with vomiting, and died suddenly. On examining the body, twenty-four hours after death, it was found to present a very considerable cadaveric rigidity. The right lung presented at its middle and posterior part adhesions of long standing and very firm; on both sides traces of empysema; crepitation inconsiderable. The inferior lobe of the right lung was œdematous to a considerable extent. Pericardium healthy. The heart larger than the fist of the deceased. Cut through transversely, it presented an evident dilatation of all its cavities with hypertrophy, especially of the left ventricle, the parieties of which were of their ordinary thickness, though its cavity was much more extensive than usual. The tissue of the heart had its normal consistency, but was divided into two layers, the one internal, very pale and grayish, the other external, of a bright red. The internal membrane pale. The orifices of the different cavities presented nothing unusual. On opening the aorta through its whole extent, a great number of small coagula presented themselves, of a grayish colour, and appearing to be in part composed of fibrine, decomposed as it were by suppuration, though no pus was present, and of colouring matter. Beneath these coagula, the internal membrane of the aorta was absent, from the sygmoid valves to the arch. Immediately above the valves there existed traces of it, but detached in part from the middle coat, so as to form two valves, upon two of the pillars which separated the normal valves, and perfectly similar to the latter. The middle coat of the artery presented many patches of a grayish white, upon a ground of an unnatural colour. The vessels of the heart had undergone no alteration. The organ itself contained no blood. In the left ventricle a single coagulum was contained; another of a grayish colour, and less uniform appearance, adhered as it were to the left auriculo-ventricular valves, and a third, similar to the last, adhered slightly to the arch of the aorta. The superior cava contained considerable blood. All the other organs contained very little. The abdomen and its viscera presented nothing unusual. The veins of the brain contained but little blood; the sub-meningeal cellular tissue œdematous. The lateral ventricles were filled with a transparent serum, by which they appeared to be distended. The entire substance of the ce-

rebrum was more firm than usual; the convolutions were flattened, as well as those of the cerebellum, which latter was very small. The above case is related by M. GENEST, in the Reveu Médicale, Septembre, 1829.

10. *Case of Abdominal Tumour.*—Among the hospital reports contained in the second number of the 30th volume "RUST's Magazin," is the following:

F. K. twenty-eight years old, in January 1829 had his right testicle removed in consequence of a schirrous induration. The wound healed perfectly, and the patient was discharged in February, apparently well. He soon afterwards returned to the hospital, complaining of severe pain in the abdomen. He was emaciated, and very much debilitated: his face was of a yellowish cast; his tongue coated; he experienced no appetite for food; his abdomen was somewhat tumid and painful during the motions of the body; the superficial veins upon this part were very much enlarged throughout their whole course. A minute examination of the abdomen was prevented by the great tenderness which existed; but in addition to the tumefaction, an induration was discovered in the upper part of its cavity. The patient was directed daily a warm bath, and morning and night, a powder composed of calomel and belladonna; half a grain of each. In the interim, *mellago graminis* and taraxaci, of each two ounces. After the use of these remedies for a week, no other alteration was observed in the patient, excepting the removal of the obstinate costiveness under which he had previously laboured. The pain in the abdomen was increased. Instead of the powders before directed, two grains of extract of belladonna, dissolved in two drachms of aq. lauro-cerasi, were administered daily, and an anodyne plaster applied externally over the part where the pain was the most severe. The pain still, however, continued, almost entirely depriving the patient of sleep; the belladonna was augmented to three grains, but without any advantage. The pain extended now over the left inferior extremity in the course of the saphena vein, and over both sides of the body to the axillæ. The patient finally died, on what day of the disease is not said. *Sectio cadaveris.* On opening the cavity of the abdomen, the stomach and intestines were found "to be smaller than natural, and crowded together." These being removed, a tumour was discovered occupying nearly the whole abominal cavity. It commenced at the diaphragm, and followed exactly the course of the descending aorta, extending on the right towards the liver, and inclosing within its substance, both kidneys and the spleen, which organs were perfectly sound. In the same manner were surrounded all the nerves and vessels within the abdomen. The tumour was firmly attached posteriorly to the spine; and opposite the fifth lumbar vertebra it divided into two portions, like the aorta, one of which rested on each psoas muscle. It was composed of numerous smaller tumours, varying in size. Some of which consisted of a grayish pulpy matter, and others of a substance of more consistency and friable; others contained a bloody, brownish sanies; this was particularly the case in the neighbourhood of the left psoas muscle.

Taken out and washed, the whole mass, with the included kidneys and spleen, weighed eight pounds, independent of about one pound of fluid which escaped from its under portion.

The thoracic duct to its insertion into the subclavian, was of the thickness of a common quill, and surrounded with numerous tumours, similar to those in the abdomen, but less in size. In the upper portion of the left lung, a tumour of the same kind existed, about the size of a hen's egg. The cranium was not opened.

11. *Case of Somnolency.*—The following case is related by Dr MUHRBECK, in HUFELAND and OSANN's Journal for December 1829. A female, twenty-three years old, of a slender form and nervous temperament, had for many years followed a sedentary occupation. During her attendance on the sick bed of her father, she experienced great fatigue and anxiety of mind. After his recovery, she returned to her ordinary occupations, but became immediately affected with

a constant and uncontrollable inclination to sleep. While sitting at work she would fall back in her chair, in a doze, her eyelids being spasmodically closed, while beneath them the balls of the eyes were frequently seen to rotate constantly. After about five to fifteen minutes, she in general began to weep, or sing, or to pronounce a number of unconnected words. In a short time she would awake, but commonly fell asleep again within half an hour. At night, her sleep was natural and uninterrupted. After she had continued in this state about eight days, Dr M. was requested to see her; April 19th. He placed her under the use of the white oxyde of zinc, 1½ grain, three times a day; each dose to be augmented daily half a grain. During the periods of wakefulness, however short, she was directed to use exercise in the open air, or as much as possible to sit before an open window. On the third day from the commencement of this treatment, the paroxysms of sleep occurred at longer intervals, and as soon as the doses of the oxyde of zinc amounted to four grains, and produced a slight nausea, the tendency to sleep entirely disappeared. The remedy was discontinued by a gradual diminution of the doses. The appetite of the patient was restored, and without the least inconvenience she returned to her usual occupations, and has since remained free from disease.

12. *Habitual Discharge of Blood from both Mammæ.*—The following singular case is related by Dr JACOBSON, of Königsberg, in HUFELAND's Journal for September 1829. Mrs N. had been subject during childhood to repeated attacks of epistaxis, with determination of blood to the head. At fourteen years of age she was married, and one year subsequently menstruation commenced, and regularly recurred, but always attended with severe pains in the back and abdomen. When sixteen years old she became pregnant. During the two first months of her pregnancy the menses were not suspended, and they again returned in the sixth and seventh months to as great an extent, and accompanied with as much pain as usual. She was safely delivered after a short and easy labour of a living child. Two months subsequently, menstruation again occurred. At this period the patient states that she was attacked with a severe illness, induced by great mental agitation, in the commencement of which there occurred a hemorrhage from under the nails and from the gums, and continued from three to four days. It was long before her health was perfectly restored; after which, however, for two years, her menses recurred with perfect regularity. At this period she weaned her child; notwithstanding which the secretion of milk still went on, and flowed constantly from both mammæ during six years; menstruation occurring regularly during the whole period. An accidental suppression of the secretion of milk for two days gave rise to considerable pain and tension of the mammæ, which symptoms disappeared as soon as the flow recommenced. The secretion of milk was finally suspended, as the patient states, by repeated bleedings, which were prescribed by a physician to that intent. There, however, took place immediately a discharge of blood from both nipples, accompanied occasionally with a severe burning pain, extending from the mammæ to the neck and shoulders. The discharge of blood continued without alteration, as well during as in the absence of menstruation. The health of the patient was not impaired. In the absence of the pain she slept soundly. Her digestion was unimpaired, and she was capable of considerable muscular exertion. When first seen by Dr J. she was twenty-four years old, strong and fleshy, of a florid complexion and plethoric habit. Her mammæ were small in size, soft, and without the least trace of inflammation, but so tender as to be unable to bear the pressure of the clothing. From the nipples, which were of a natural form and free from pain, there was a constant discharge of blood, sometimes of a bright red, and at others of a blackish colour, thin and readily running into putrefaction. The amount discharged per diem was from three drachms to one ounce. The pain in the mammæ was very severe during cold rainy weather, or when the discharge was for a short time suspended, and extended over the throat, head and shoulders, causing watchfulness, loss of appetite, and frequent vomiting. No febrile symptoms were present; the pulse was slow and soft, the skin dry, bowels natural. Menstruation had all along regu-

larly occurred until a short time previous to her arrival at Königsberg, when it became suspended, and a vicarious discharge of blood took place from the lungs and stomach, attended by various other morbid phenomena. By proper treatment these had been arrested.

With the view of suspending the discharge of blood from the mammæ, and reinstating that from the uterus, Dr J. directed repeated applications of leeches to the pudenda, bleedings from the feet, pediluvia and semicupia, and internally digitalis, hydrocyanic acid, laxatives, &c.; the mammæ at the same time being suspended by a proper bandage. These remedies were, however, entirely without effect, and the patient still remains in the hospital at Königsberg, with the discharge from the mammæ as previously. During the three menstrual periods the patient has resided in the hospital, a vicarious discharge of blood, to a considerable extent, took place from the lungs and stomach.

13. *Peculiar Eruption in Children.*—In Rust's Magazine, No. 3, vol. 30, it is stated upon the authority of Dr Kind of Swienmünde, that in the latter part of October and beginning of November 1828, a considerable number of children were attacked with an eruption, very similar in some instances to scarlatina, but in others having more resemblance to measles. It appeared in circumscribed patches, at first upon the face, leaving, however, entirely free the forehead, the neighbourhood of the eyes, the upper lip from the alæ of the nose to the corners of the mouth, and the under lip to the depression of the chin. The eruption was of a purple red, but neither elevated above the skin nor painful. It was not preceded by any morbid symptoms, nor attended by any affection of the head, throat, chest, stomach, or limbs. In a few instances, towards evening, there took place a slight febrile exacerbation. In about two or three days after the eruption appeared on the face, it became paler, but made its appearance upon the throat, breast, abdomen, and back, which parts presented in consequence a peculiar marbled appearance, the patient otherwise appearing entirely free from disease. About two or three days later the eruption entirely disappeared from the face, and became paler upon the body, but showed itself upon the arms, hands, legs, and feet; and in some individuals, on the palms of the hands. After two or three days it disappeared from the body, and became less distinct on the extremities. Finally it disappeared entirely, leaving behind it no affection of any kind. In a few cases, a slight desquamation of the cuticle occurred. The eruption appeared to be contagious. It occurred in those who at different periods previously had been affected with the scarlatina, roseola, measles, &c. It did not attack adults. It was entirely unattended with danger, and required little or no medical treatment.

14. *Intermittent Paralysis of a double Quotidian Type.*—The following case of intermittent paralysis is recorded by Dr Battaille of Paris, in the Annales de la Medécine Physiologique for December 1829. Bienville, aged twenty-seven years, had enjoyed ordinarily very good health, until, after having experienced a sense of weight in the region of the stomach, she was seized with very copious vomiting of a dark thick blood, which coagulated readily. This vomiting returned five or six times each day. Cool soothing fluids were directed to be taken with sinapised pedaluvia. The vomiting was not however abated, and Dr B. was called to the patient on the 18th of May 1828, eight hours after the commencement of the attack. The debility of the patient was so great as to prevent her from raising her head. Her face was pale, the eyelids and inferior extremities œdematous; pulse soft, undulating, and 130 to 140 in a minute, tongue blanched, and the mouth dry, with considerable thirst. No pain was experienced at the epigastrium nor in the chest; the alvine discharges had never presented any traces of blood. Sinapisms were directed to the legs, a blister to the epigastrium, and internally astringent ptisans. Three blisters were successively placed on different parts of the surface. By the 23d the hæmatemesis was entirely suspended. The feebleness of the patient was extreme; her surface was of a yellowish tint; the œdema had increased, and the extremities were with

difficulty kept warm. Frictions with tincture of cinchona and digitalis were employed, and internally broth, some spoonfuls of which were retained. There existed constant watchfulness, which was attempted to be overcome by soporifics. On the 24th of May, at five o'clock in the evening, it was discovered that the patient had paralysis of the right side, characterised by immobility of the limbs, and reduction of their temperature. The tongue was turned slightly to the left; the look of the patient was fixed, and her replies slow. This condition had existed for an hour, and had been preceded by a tendency to stupor and dull pains of the occiput. Sinapisms were directed to the thighs, a blister to the back of the neck, and an injection of senna and castor oil, of each half an ounce. Towards nine o'clock all the symptoms disappeared: the night, however, was passed without sleep, and the same phenomena returned at five o'clock in the morning, preceded by the same symptoms as on the preceding evening; by eleven o'clock they again entirely disappeared, but returned again at six o'clock in the evening. Ten grains of the sulphate of quinia were directed to be given in two injections; the first at three, and the second at four o'clock in the morning. Between six and seven o'clock there occurred stupor, slight cephalalgia, difficulty in the motions of the limbs, and impeded articulation, which continued until eight o'clock. The same day a second dose of ten grains of the quinia was administered at three and at four o'clock P.M. The paroxysm occurred at seven o'clock and terminated by nine. The symptoms were to the same extent as in the morning. A third dose of the quinia was directed during the night of the 26th. The morning paroxysm did not occur. A fourth dose of six grains was given in the afternoon, a paroxysm occurred at this period of the day of the same intensity as that of the 25th. Ten grains of the remedy given the next day prevented their recurrence, and three repetitions of the quinia subsequently completed the cure. The convalescence was tedious; but by the 20th of September the patient had acquired her ordinary state of health.

15. *Experiments on the Coloration of Different Tissues.*—We extract the following, which are the conclusions to which Cassimir Broussais has arrived in regard to some important points in morbid anatomy, from the January number, 1830, of the Annales de la Med. Physiolog. He divides the lesions discoverable after death into five species, viz. alterations which depend, 1st, upon an acute inflammation; 2d, upon a subacute or chronic inflammation; 3d, upon atony; 4th, upon physical causes during life; and 5th, upon the decomposition of the organs and fluids after death.

1. *The tissues perfectly white and entirely exempt from inflammation*, do not redden upon exposure to the air, as Laennec has erroneously supposed.

2. *The tissues white and healthy* redden upon maceration in the blood; some more readily than others. But it is to be remarked, that the red colour in these cases becomes very promptly dark brown or livid, if we continue the maceration beyond a few hours. Besides, the transparent pellicle by which the exterior surface of the serous membranes is covered, as well as that which lines the veins and arteries, becomes always coloured, as well as the membrane itself. Finally, if the maceration be continued longer than one day, the membranes become tender. But if the same tissues be placed in pure water, after being coloured by maceration in blood, the redness is entirely removed in twenty-four hours.

3. *The tissues red and inflamed* experience, during maceration in pure water, the following changes. If the redness be very light, it is caused to disappear by maceration, but again returns on exposure to the air. But if it be intense, it only becomes somewhat lighter.

4. *In the serous tissues and blood vessels*, the transparent coat referred to above does not redden from inflammation, provided, at least, the cause of the irritation has not been directly applied to it, or in the course of the disease the redness has not penetrated to it through the subjacent tissue, which is a very rare circumstance.

5. *The redness by imbibition from maceration* exists only at first; within

a very short period, it quickly passes to a deeper and more livid shade; it is always uniform, never in points or arborescent, and is made to disappear readily and completely by maceration in pure water.

6. *The redness from inflammation* is very generally in points or arborescent, though frequently it is uniform, as we have proved by injecting ammonia into the carotid of a dog. In the latter case it may be deep, almost black, but never livid as when from imbibition; even were it to assume the latter appearance, it is readily distinguished as inflammatory by its not disappearing upon maceration in pure water. If, on the contrary, it is light and rosy, it has then a brightness which does not appear when produced by imbibition, and although it may be removed by washing, this is effected with more difficulty than in the other case; while if the tissue be exposed to the air, and it has been the seat of inflammation, it will not fail to resume its red colour, which does not occur in membranes which have not been inflamed, or have been coloured by maceration in blood.

16. *Uterine Phlebitis.*—In his "Pathological Researches on Inflammation of the Veins of the Uterus," &c. recently published, Dr LEE of London has attempted to prove that "phlegmasia dolens must now be considered as merely one of the remote consequences of uterine phlebitis." Without at present entering into any discussion as to the validity of this proposition, we present to our readers Dr LEE's account of the symptoms by which inflammation of the uterine veins is characterized:

"Generally," he observes, "the spermatic veins alone are affected, and for the most part only that on the side of the uterus to which the placenta has been attached; and inflammation being once induced, it is liable to spread continuously to the veins of the whole uterine system, of the ovaria, fallopian tubes, and broad ligaments. The vena cava itself may become affected, but this occurrence is not frequent, the disease being usually arrested at the entrance of the spermatic into the vena cava on the right side, and of the emulgent into the same vessel on the left. If, as sometimes happens, it pursue the direction of the kidneys, the substance of these organs, as well as their veins, may be involved in the mischief. The hypogastric veins are seldom affected on both sides, and rarely inflamed in comparison with the spermatic.

"Uterine phlebitis appears to result from the mechanical injury inflicted by protracted labour, from the force required for the extraction of the placenta in uterine hemorrhage, from retained portions of placenta undergoing decomposition in the uterus, the application of cold and probably of contagion, and from various unknown causes operating on the uterine system after delivery.

"It is perhaps impossible to determine, for the most part, the precise period of its invasion, from the total absence of local pain, and of other symptoms; but it is probable that it most frequently begins soon after delivery, and remains stationary for a time around the orifices of the uterine veins, as phebitis has been observed to do, when it occurs after venesection. Of this, however, we can have no certain proof, nor can it be admitted to be a general occurrence, from the rapidity with which the inflammation has been found to attack the uterine, spermatic, and renal veins. In one case the disease proved fatal on the evening of the fifth day after labour, and on dissection, all these veins were found disorganized.

"It may be stated, as the general result of all the observations hitherto made on uterine phlebitis, that it occurs most frequently from the tenth to the twentieth day after parturition, though it has been observed to commence at an earlier, as well as at a much later period.

"Where the veins alone are inflamed, the peritoneal and muscular tissues remaining unaffected, there is often either no pain or only a dull pain, with a sense of weight in the region of the uterus, and no other local symptom by which the disease can be recognized. The uterus too may return to its usual reduced volume, or nearly so, and it is only on the accession of the constitutional symptoms, which have been already detailed, that the existence of this insidious and dangerous affection can be determined. If the substance of the uterus be affected,

this organ remains above the brim of the pelvis, large, hard, and painful on pressure, as in puerperal peritonitis.

"With regard to the lochial discharge, it has sometimes been observed to be fetid, and puriform, and at other times in a perfectly natural state."

"The constitutional symptoms of uterine phlebitis are like those of phlebitis elsewhere occurring. Dr LEE is induced to believe that the disease is of much more frequent occurrence than has hitherto been suspected, and 'that to it must be referred many of the fatal disorders of puerperal women which have usually been comprehended under the vague designation of puerperal fever or peritonitis.' According as the serous, muscular, or venous tissue of the uterus may be affected, will the forms of puerperal disease, in Dr LEE's opinion, be inflammatory, congestive, or typhoid."

17. *Inflammation of the Spleen terminating in Suppuration.*—The two following examples of suppuration of the spleen are worthy of particular notice. The first occurred to Dr TWEEDIE, physician to the London Fever Hospital, in the course of his practice in that establishment; the other is related by Dr RAIKEM, of Volterra, in a late number of Breschet's Repertoire.

Dr TWEEDIE's patient was a girl, twenty years of age, who was supposed to have fever, and was on that account sent to the Fever Hospital when she had been seven days ill. Her chief complaint at the time of her admission was of thirst, want of sleep, and pain in the loins. There was no headach, pain of chest or belly, or cough; but the countenance was flushed, the tongue foul, the bowels loose, and the pulse very frequent. The parotid glands had begun to swell. Having been bled before admission, the treatment was at first confined to leeches applied over the parotids, and a mild course of mercury, united with ipecacuan. But eight days after she entered the hospital, she was attacked with pain on inspiration in the left side of the chest, corresponding with the lower part of the left lung, and hurried breathing, without cough. She had also tenderness of the belly. Bleeding, blistering, and the use of calomel and opium, were followed by relief of the pain; but the respiration continued hurried, the pulse frequent, the general excitement considerable, and the belly distended and tender. She was in this stage of the disease attacked with erysipelas of the head and face, which ended fatally between seven and eight weeks from the commencement of her illness. "There was no disease in the brain or chest. On raising the left lung, a small tumour on the diaphragm appeared, which at first gave the impression of diaphragmatic hernia; on more close examination, however, it appeared to be an abscess, covered only by the pleura of the diaphragm. On tracing the origin of this abscess, it was discovered in the spleen, which adhered firmly to the diaphragm and cardiac orifice of the stomach. Two abscesses were formed in the spleen, one in its centre, and another at the point of its adhesion to the diaphragm, the peritoneal covering and fibres of which it had destroyed, and thus protruded into the left pleural cavity. In the ileum there were several small ulcers, one of which had the appearance of undergoing the process of healing, being covered with a thin film of lymph, while its edges had assumed the level of the centre of the ulcers."

Dr RAIKEM's case occurred in the person of a stout young man, of a sallow complexion, much addicted to spirituous liquors. He had been affected for some weeks with pain in the left hypochondrium, when he was seized with stomach complaints, for which he took a saline mineral water as a laxative. Next day, when Dr RAIKEM first saw him, there was nausea, anorexia, and loaded tongue; deep-seated pain under the left false ribs, increased on pressure; yellowish liquid stools, burning heat of skin, and a frequent vibrating pulse. At night a fit of rigor ensued, followed by heat, and next morning by a remission of the febrile symptoms. For some days afterwards the disease resembled a remittent gastric fever; so that, after some insignificant palliative treatment, his physician had recourse to bark. This checked the periodical exacerbations of the fever, which, however, continued in a milder degree, with want of appetite, nausea, occasional vomiting, diarrhea, and increasing debility. At the same time there appeared in the left hypochondrium a hard elastic tumour, in which pressure excited lanci-

nating pain. A considerable variety of heterogeneous remedies appear to have been resorted to almost at one and the same time, as soon as the nature of the disease thus developed itself; but no relief was obtained. The tumour first grew larger, then softened, and next became less; and when it began to diminish in size, it was impossible to examine it without exciting acute pain. The patient about this period also began to complain of lancinating and lacerating pain in the left lumbar region, where there was an œdematous tumour with deep-seated fluctuation. Afterwards the pain in this quarter became less acute; while the fever increased, the abdomen became tympanitic, and the tumour extended from the ribs to the crural arch. The breathing was now short and laborious, the pulse hurried and feeble; the patient was tormented with a frequent dry cough, copious partial sweats broke out, and death at length ensued two months after Dr RAIKEM first saw him, the intellectual faculties having continued entire to the last. The left cavity of the chest contained two pounds of yellow serum, intermixed with fibrinous flakes, and the pleura of the same side was covered with a thin layer of puriform fibrin, reddish and thickened. The corresponding lung was healthy in its internal structure, but its lobes adhered to one another, and to the parietes of the chest. The right lung and pleura were healthy. The liver too was healthy. The stomach and intestines were healthy outwardly, but the state of their inner membrane was not ascertained. The upper part of the descending colon, as well as the greater curvature of the stomach, adhered to the spleen. That organ was twice its ordinary size, and crimson red at its edges; and the portion of abdominal peritoneum corresponding with its posterior surface, was raised by a white, thick, puriform and very fetid liquid. This proceeded from the interior of the spleen, which was hollowed out into one great abscess. The pus was consequently effused between the peritoneum and the adjacent muscles, spine, and kidney; and it had worked its way down to the crural arch. The fetid odour of the pus was so overpowering, that the dissection could not be farther proceeded with."—*Edin. Med. & Surg. Jour. April* 1830.

18. *Intermittent Ophthalmia.*—A man, over thirty years of age, had been a soldier, but, for some years prior to 1827, had worked in a cotton manufactory. In the spring of the last mentioned year he became affected with a severe ophthalmia, first of the right, and subsequently of the left eye. This at length subsided; but in three months afterwards, the inflammation reappeared in the right eye, with a periodicity of eight days:—in the following manner. After being some hours in bed, the patient was awoke by violent pain in the eye, accompanied by lachrymation, redness, and such a sense of distention that he could scarcely be persuaded that the eye was not bursting from the socket. The feeling of sand in the eye was also very distressing. These symptoms would continue during the succeeding day, till towards the evening, when the pains would diminish and ultimately cease, leaving the eye in a state of complete epiphora. On the third day the organ would appear quite sound. Some degree of aversion to light, and lachrymation, however, continued occasionally, during the intermissions, especially in particular states of the weather. These paroxysms returned every eighth day. In the winter of 1827, the accessions began to come on in the afternoon, instead of the middle of the night, continuing with great severity till the next morning, and preventing sleep. In the intervals, he carried on his usual labours. On the 8th of April 1828, he received a blow on the left eye, which instantly deprived him of sight. He did not apply for medical assistance till the 19th of May, when marks of inflammation were visible both in the conjunctiva and sclerotica, with an ulceration on the transparent cornea. The anterior chamber of the eye was very turgid with aqueous humours—the eye prominent, and the pupil drawn obliquely downwards and outwards, while it was remarkably contracted. At this time he said nothing about the preceding periodical affection of the right eye, and the case was treated as one of traumatic ophthalmia. But the old intermitting affection of the right eye now returned, and with intervals of three instead of eight days. The periodicity at length was so remarkable, that proper means were used, and the disease stopped.

The foregoing case is related in the Journ. Complement. for Jan. 1830. The editor of the Medico-Chirurgical Review, from which work we have extracted it, adds to it the following remarks:

"Such cases are more common than are imagined. Within these few weeks we were requested to visit a poor artizan who, in the year 1829, was laid up with a complaint of the above kind for seven or eight weeks, to the almost ruin of his family. The pain was on the left side of the head, and the left eye became every day red and apparently inflamed, with excessive lachrymation and intolerance of light. Repeated depletion and the usual antiphlogistic means did no good, but rather aggravated the complaint, which appeared to have given way to time rather than physic. When we first saw this patient, in the height of a paroxysm, such was the apparent intensity of inflammation in the eye, that we ordered a repetition of leeches to the temple. We soon found out our mistake, and ascertained that the malady came on regularly every morning at six o'clock. The arsenical solution and quinia cut short the complaint in three days, and the man returned to his work, rejoicing that this year's attack was so short, in comparison with that of the preceding year. Many such cases have come under our notice during the last three or four years, and we are convinced that no one would suspect the real nature of the complaint unless he happened to notice the periodicity. The phenomena are exactly those of inflammation, excepting that the pain is more excessive than in common ophthalmia. Yet we really believe that the term inflammation here is hardly warrantable. It is rather an afflux of blood to the part, occasioned by, and no doubt augmenting the intensity of the nervous pain—the vascular phenomena rapidly subsiding when the neuralgic orgasm is over. The effects of genuine inflammation would not—could not, so suddenly disappear."

IV. THERAPEUTICS.

19. *Tapping in Hydrocephalus.*—The following case is extracted from the number of "the London Medical and Physical Journal" for May last. The subject was presented by Dr CONQUEST to his class, at St Bartholomew's Hospital.

"A girl of about two years of age had several signs of hydrocephalus, from a date soon after its birth, and for many months past the head had gradually increased, until it acquired an enormous size. The forehead was singularly broad, and the anterior fontanelle unusually large. The pupils were permanently dilated; the child slept almost incessantly, and frequently had two or three frightful convulsions during the day and night. Dr CONQUEST operated some time since, before a large number of the pupils of the hospital, by pushing a very beautifully constructed trocar into the right lateral ventricle. He introduced it obliquely, close to the edge of the right temporal bone, about midway between the crista galli process of the ethmoid bone and the anterior fontanelle, so as to avoid the longitudinal sinus on the one hand, and the corpus striatum on the other. The instrument entered about two inches below the scalp. An ounce and a half of bloody serum, mixed with portions of the cerebrum, escaped. The pulse became feeble, and temporary collapse followed. The fluid was allowed to escape stillicidium; and within eight and forty hours, about two pints and a half flowed out of the opening. Almost immediately after the operation, the pupils became sensible to the stimulus of light: the drowsiness was succeeded by disinclination to sleep; and the pulse, which had always before been remarkably slow, became about eighty. Two days after the operation, the brain evidenced signs of inflammation, with high constitutional disturbance; and great alarm was excited by a rather formidable attack of convulsions. Leeches to the temples, and the constant application of cold to the head, subdued the local inflammation, and within twenty-four hours all became tranquil. The head was well strapped, and from the cessation of cerebral excitement, no unfavourable circumstance occurred."

When this child was exhibited, every one was struck with the improvement of its appearance, and by the intelligence and cheerfulness of its countenance. Dr. C. stated that he considered the child perfectly well, and "as exhibiting a most gratifying and triumphant proof, that this seemingly formidable procedure might be safely and successfully adopted under similar circumstances."

20. *Dulcamara in certain affections of the Skin.*—Mr GARDNER has detailed, in the May number of the London Medical and Physical Journal, several cases of chronic eruptive disease which were cured by the internal use of a decoction of the solanum dulcamara. In the first case the disease extended all over the body. "It was scaly, not in defined circumscribed patches, but continuous, with a deep red blush on the cutis beneath; an ichor constantly oozed from the surface; small vesicles might here and there be observed; frequently a crop of minute pustules, like those of tinea capitis, and sometimes large vesicles, would rise after burning pain, simulating erysipelas." The decoction was given in doses of an ounce three times a day, with a little tincture of cardamon. The usual symptoms from narcotics, sickness of stomach and vertigo, were soon produced; but the medicine was persisted in, and a beneficial change took place. The patient was in about a month restored to perfect health."

In the second case there was an "eruption of an irritable character, extending over the body, with ichorous oozing behind the ears, and small pustules frequently appearing on the scalp." The eruption was speedily and effectually cured by the same remedy, given in the form of the syrup, made with the extract. The same effects as in the former instance—sickness, vertigo, and gentle catharsis were produced. Mr G. considers them, indeed, as the index of the full specific effect upon the disease. He considers, after considerable experience, that the dulcamara is a most effectual remedy in those diseases of the skin that are attended with irritation, pustules, vesicles, scales, &c.

21. *Hysteria cured by the removal of a small Tumour from under the Breast.*—A woman had two small tumours, movable under the skin, and about the size of small peas, which made their appearance after a blow on the chest. The development of one preceded that of the other, and was not attended with inconvenience. The appearance of the second was followed by symptoms of severe hysteria. She had been in this state for several years; when at length, urged by the severity of her sufferings, she applied at La Charité for relief. M. BOYER extirpated the tumour which had formed last, and thus at once put an end to the disease.—*London Med. Gaz. from La Gazette Medicale, Paris.*

22. *Opiate Enemata in Delirium from Wounds.*—Delirium without fever or cerebral alteration, is a frequent consequence of great operations, wounds, &c. It is characterized by an extraordinary loquacity, complete incoherence, and continual movements, which are not prevented by the pain that naturally accompanies the lesion under which the patient may labour. Thus those having comminuted fractures of the lower extremities, have been known to tear off the bandages, and to walk on the broken limb, "without testifying the least pain; and others who had been operated upon for hernia, to thrust their fingers into the wound, and amuse themselves with pulling out their bowels, just as if they were doing so on a dead body. This state of exaltation of the nervous system may lead to the most unpleasant or fatal consequences, if not combated by proper remedies. The treatment which M. DUPUYTREN has found most efficient, is an opiate injection. A purgative enema is first thrown up, to empty the large intestines; after which the narcotic is administered. Fifteen or twenty drops of liquid laudanum are in general sufficient. But it is very important in the use of this remedy, that it should remain three or four hours in the rectum. Under these circumstances, the moderate dose above mentioned is sufficient; whereas much larger quantities of laudanum, if they have been speedily ejected, have been of no service." M. DUPUYTREN is of opinion that, in these cases, the medicine acts more beneficially in the form of clysters than when taken by the mouth.—*London Medical Gazette, from Journal Hebdomadaire.*

23. *On the use of Salicia in the Treatment of Intermittent Fever.*—Our readers are perhaps aware, and if they are not, we inform them, that salicia is a substance not long since discovered in the bark of the poplar—salix alba, by M. LEROUX, an apothecary of Vitry le Français in France. M. MIQUEL was led from a large number of experiments to conclude, that this substance is equal, as a febrifuge, to the sulphate of quinia. He has published in the Gazette Medicale, nine cases of intermittent fevers in which this remedy was employed. In eight the success was complete. In two, the disease was so mild, that it would probably have yielded readily without the use of any febrifuge. Some other cases were examples of the most simple form of intermittent fevers, which are usually with success managed by means of the sulphate of quinia. They were only cured after the salicia had been employed from two to five days. In one case, however, the disease was of long continuance, and had resisted the use of the Peruvian bark, opium, assafœtida, &c. In this case the salicia was completely successful. In the ninth case, the remedy failed; but it is to be observed, at the same time, that in this instance, the sulphate of quinia, in like manner, failed to render the desired effect.

The salicia is administered in larger doses than the quinia—from 18 to 20 grs. the first day—afterwards from 30 to 40 or even 50 grs. At whatever dose it is used, it does not give rise, as the sulphate of quinia sometimes does, to a burning sensation in the stomach, a circumstance which will cause it to be preferred to the latter in individuals with irritable stomach.—*Archives Générales, for January* 1830.

At a meeting of the Royal Academy of Medicine for December 1st, 1829, a letter was communicated by M. DEVILLIERS, from Dr GERARDIN, in which the latter announces that he has substituted with success the sulphate of salicia for the sulphate of quinia. He relates two cases which show the efficacy of the substance. M. VIREY reminded the Academy, that two years ago, Mr BUCHNER in Germany, and Mr RIGATILLI in Italy, obtained this substance from the bark of the poplar, and had employed its salifiable base and its combinations in intermittent fevers. Other physicians in France and in Italy have also used it with success, and the writer of this article recollects that, while at Verona in 1828, it was used with advantage by his friend Dr BERTI, the learned editor of Burserius' posthumous works. He then obtained a quantity of the remedy, but had not yet had an opportunity of making a fair trial of it.

24. *On the use of the Warm Bath in Delirium Tremens.*—In an essay on this disease, published in the American Journal of Medical Sciences, by Dr THOMAS H. WRIGHT, physician to the Baltimore Almshouse Infirmary, we are informed that "the means commonly employed in the treatment of temulence, or delirium from intemperance, were uniformly successful," in that institution, "in a multitude of cases, for two years antecedent to the spring of the year 1829." "Those means were emetics—afterwards mild cathartics, (Epsom salts and magnesia) in cases complicated with gastric and biliary derangements, or much febrile disorder; the evacuants, followed promptly by anodynes, graduated in force or repetition by the amount or persistence of nervous disturbance. In cases of the disorder already arrived at the stage of pervigilant delirium, if high vascular tumult existed, he here also employed an emetic afterwards a nauseant, tartar emetic solution—as a sedative, and concurrently with the effects of the latter, opiates, in doses designed to enforce sleep, made full, and renewed so frequently as to have the effect of each successive dose to come in aid of the impression of those preceding."

When the sensorial irritation was greatly exalted, attended with deficient reaction, and signs of general atony, all evacuants and direct sedatives were omitted, and the patient placed at once under the use of opiates and cordials of the vinous or spirituous class.

In the year 1829, Dr WRIGHT appears to have been somewhat disappointed in the above plan of cure, which, it must be confessed, does not differ much from that adopted in most of our public receptacles for temulent cases, where

the medical attendants are not in the habit of boasting of uniform success. It was then that he modified the plan, and had recourse to the warm bath. The latter was made use of, however, only if the delirium, pervigilance, or high temulence survived, as they too often do, the use of evacuants and local depletion. "The temperature of this agent (the bath) was regulated by the state of the patient, as a general rule about 90 degrees; its duration to be determined by its effects, always contemplating manifest calming influence, before the experiment was arrested. The opiate course succeeded immediately to the bath. Dover's powder, or pure opium, in the proportion of one grain to the dose, (or an equivalent in laudanum), was given every two hours, if necessity continued, to the extent of three, or at most four doses. If this trial with the opiate did not succeed in inducing quiet or sleep, the warm bath was repeated, the patient kept in until sensibly, but not greatly relaxed, and on his coming out of the bath, the opiate was again resorted to, but in a retrograde ratio. Instead of renewing now the amount of opiate first employed, the dose was reduced at once to one half, if the patient was much languid from the bath, and repeated at intervals of an hour, until sleep was procured."

In the atonic form of the disease, in which, however, sensorial and nervous irritation *abounded*, all evacuation by vomiting or purging was *pretermitted*. "Here moderately stimulating injections were employed, until stools were procured; cups applied to the head or epigastrium, or both, if gastric and encephalic super-irritation were present; the warm bath, and after its use, opiates in force of dose and frequency of exhibition, regulated by the seeming indications for a prompt or gradual impression." "Always before commencing the use of the diminished doses of the opiate, the warm bath was repeated, and it generally, in fact almost uniformly happened, that after repetition of the bath, the reduced doses (half proportions) displayed more composing and greater hypnotic influence than the previous full doses had accomplished; often succeeding perfectly in the same number of doses as had failed altogether on the first trial with double the quantity of opiate."

"If it were asked," Dr W. remarks, "in what I conceived to rest the main efficiency of the treatment here reported as having almost uniformly overruled temulent delirium in its most grave forms, I should reply, first the warm bath, secondly liberal cupping on the abdomen and head, the latter especially. The very temperate opiate course which has followed those means and consummated the case, I regard as owing its efficiency chiefly to the constitutional preparation, accomplished by the primary and concurrent employment of the former agents. Unaided by those auxiliaries, I conceive the small doses of opiate would often expose to defeat in a contest with so formidable a disease."

By a report handed to Dr W. by Mr R. I. Thompson, senior student of the infirmary, it appears that of 39 cases of delirium tremens and temulentic admitted from the third of July 1829 till the 30th of December of the same year, 25 were *explicitly* delirious. Three of them died, having been admitted in a dying state. Of the merely temulent cases none proved fatal.

25. *Inflammatory Diseases of the Eye, treated by stimulating applications.*—The London Med. and Surg. Journal for Oct. 1829, contains an account of some cases of inflammation of the eyes, occurring in young children, and treated successfully by means of the ung. argent. nitrat. and lotio aluminis. These cases were admitted and treated at the Westminster Hospital. We here transcribe one of them as a sample.

Edward Champion, ætat five weeks, was admitted January 8th, 1829. The left eye was observed to be weak the day after he was born, but no discharge was observed until the next day, when it was in great quantity; three days after, the right was found to be in the same state; the discharge is now thought to be less. Has had advice, and used lotion externally; has taken opening medicines likewise; his mother is subject to fluor albus. The ung. argent. nitrat. was applied, after syringing out the eyes with lotio aluminis; which latter was ordered to be used several times a day, on alternate days.

10th. The discharge is considerably less; the eyes are much better. Repeat ointment and lotion.

13th. Nearly well. No discharge from the eyes, except a very slight one in the evening. Opens its eyes with ease. Repeat ointment and lotion.

15th. Cured.

In the other cases the same treatment was pursued, but before using the stimulating applications noticed above, leeches were occasionally applied; in one case the lids were scarified. In one or two the ung. zinci was used. In the majority the bowels were kept open by purgatives. In some of these cases the cornea was ulcerated and muddy. In all but one the mothers were subject to fluor albus.

The ung. nitrat. argent. is a favourite with Mr GUTHRIE, the distinguished surgeon of the Westminster Eye Infirmary. The London Medical and Physical, and the London Medical and Surgical Journals, contain several highly interesting reports of cases treated by the ointment at that institution, which encourage us to hope this article will prove a useful addition to the already large stock of remedies recommended and used in affections of the eyes.

26. *Pyroligneous acid in Gangrene, Ulcers and Fungus Hæmatodes.*—Dr THOMAS Y. SIMONS, physician to the Almshouse Hospital, Charleston, has published in the February number of the American Journal of the Medical Sciences, a short but valuable paper on this subject. At first he used the acid diluted with six times its quantity of water; but since, he has employed it diluted with equal parts of water, gradually augmenting the quantity of the latter as the sores assumed a healthy appearance, until the acid constituted but one twenty-fourth part of the mixture. "It should always create a smarting sensation." The following case, if really one of fungus hæmatodes, is worthy of attention.

"Charles Bolton was brought into the hospital on the 13th of September, suffering from the effects of intemperance. I observed a red suffusion over his thumb, with considerable tumefaction; he complained of its giving him great pain. I ordered a poulice of *bread and milk*. This was continued for three days, when the inflammation increased, became more painful and tumefied; a fluctuation was felt as if there was matter, and there appeared to be a disposition to point over the second articulation of the thumb. I made a free incision, when very little matter escaped, but a great quantity of blood. On the next morning I was informed that upwards of two pounds of blood had come from the wound, although I regarded this quantity as exaggerated. I found upon examination the wound had all the appearance of fungus hæmatodes. It spread out on each side of the incision like a mushroom, was fungous, very vascular, and oozing blood at every part. So formidable an appearance in so short a time, left little hopes of relief but in removing the diseased part, which remedy is more than equivocal as regards success. It was, however, suggested to me by a medical friend, that as the pyroligneous acid had proved so valuable and efficacious in the other cases (gangrene and ulcer) whether it would not be worthy of a trial in a disease which has generally defied the power of remedial agents. I readily consented, but with no hope of success. The acid was applied in its strongest form, which in two days checked the hemorrhagic tendency. In fifteen days the fungous character of the wound was subdued, when lunar costic and adhesive straps were applied, which completed the cure on the 25th of October."

27. *Belladonna in Neuralgia.*—In a former volume of this Journal we inserted the details of a case of neuralgia treated by the external application of extract of belladonna, as reported by Mr HENRY, an English surgeon. The January Number of the Revue Médicale contains the details of six interesting cases of the same disease cured by the same means by a Dr CLARET. Already in the number for March 1827, Dr C. had published the history of a case in which the belladonna, applied externally, proved speedily successful. It is with a view to confirm the idea of the advantage of this plan, suggested by the few cases already on record, that Dr CLARET publishes the paper, a short abstract of which we here lay before our readers.

In the first case the disease was recent, and seated in the supra orbiter nerve. The pain was periodical and acute. Five or six frictions, with the extract of belladonna, were sufficient to cure the disease. In the second case the cure was more expeditious, for two frictions were sufficient to remove the complaint. In the third case, one friction with 10 grains was sufficient, although the disease was of several days standing. The fourth case, though of long standing, and attended with excruciating pain, was as speedily cured. Five months after, the patient having been threatened with a return of the pain, had recourse, of her own accord, to the same remedy, and with an equal success. The fifth case was cured in a few days by means of the extract, without any other remedy; but in the sixth case, the neuralgic pain being accompanied with symptoms of cerebral inflammation, resulting from a blow which the patient had received on the head, the employment of the belladonna was preceded by that of the lancet, leeches, and revulsives. The success was highly satisfactory.

28. *Nitrate of Potassa in Scurvy.*—The Medico-Chirurgical Review for April last contains an extract from a letter or report presented to the Navy Medical Board by Mr CHARLES CAMERON, a naval surgeon. In this report Mr C. gives "an account of a severe scurvy which broke out among the convicts on board the Ferguson transport, on her passage from Ireland to New South Wales, and which threatened to depopulate the crew, till fortunately it was checked by a solution of nitrate of potash in vinegar, or in a mixture of vinegar and lemon-juice."

"The most distressing symptoms," says Mr CAMERON, "which my patients complained of in the early stages, namely a sense of oppression and sinking at the pit of the stomach, were almost invariably relieved, or totally removed, by a few doses of the medicine. The prisoners themselves were so sensible of its good effects, that I had, for the first time, an opportunity of seeing men crave for medicine, the taste of which was certainly not pleasant; and their complexions were so much improved under its use, changing from a sallow, bloated hue, sometimes approaching to livid, to a clear healthy colour, that it became a matter of surprize to every one.

"The medicine was prepared and exhibited in the following manner; eight ounces of nitre were dissolved in so much vinegar as would make the solution amount to sixty-four ounces. Sometimes equal parts of vinegar and lime-juice were used. A little sugar was generally added to render it more palatable; and about four drops of ol. menth. piperitæ, diffused in a small portion of alcohol, was added to the whole, which rendered it more grateful to the stomach."

The dose of this solution was seldom more than one ounce. From three to eight doses, according to the stage of the disease and the severity of the symptoms, were given at equal intervals during the day, from six o'clock in the morning till eight at night. "In general, when the remedy was taken early, two or three doses a day, for a week or ten days, were sufficient, but it appeared to be always better to commence with three or four doses, and increase the number gradually, daily if necessary."

In the advanced stages a much larger quantity may be taken, and in fact are required, than at the commencement. Although Mr CAMERON often gave the solution to the amount of eight ounces daily, and occasionally exceeded this quantity considerably, he never observed any irritation of the stomach and bowels, nor any other inconvenience which could be fairly attributed to it. Mr C. had occasion some years before to give a solution of nitre in water a fair trial in several bad cases of scurvy, where neither vinegar nor lime juice could be obtained; and except that sometimes it did not appear to sit so easy on the stomach, it produced the same effects on the disease.

In order to give an idea of the efficacy attributed by Mr C. to the solution in question, we will merely state, that soon after the use of the latter was commenced, he abandoned the idea of putting into Rio Janeiro, as had been thought necessary, in order to procure refreshments for the sick. They, therefore, pursued their course to New South Wales, where the convicts landed in unusual good health.

29. *Treatment of Poisoning from the bite of a Spider.*—In the last number of the New York Medical and Physical Journal, we find the report of a "Case of Poisoning from the bite of a Spider, successfully treated by ABNER HOPTON, M.D. of North Carolina." We extract a few passages from this paper with a view to show how effectually the human constitution will sometimes resist the baneful impressions of perturbating agents; in a word, how difficult it is for remedies to kill a well constituted individual, and consequently, how unfounded is the charge so frequently preferred against physicians, of hastening, by the administration of a few articles of the materia medica, the death of a patient. After remarking that on reaching home the patient became excessively faint and exhausted; that a death-like coldness pervaded his whole frame, accompanied with cold shiverings, clammy sweats, total inability of locomotion, and great aberration of intellect, Dr H. remarks:

"Various were the remedies prescribed for him previous to my being called in, such as the popular prescriptions in common use for the bites of venomous reptiles, viz. plantain, hoarhound, boneset, edgeweed, rue, tansey, squirrel's ear, wormwood, milk, oil, spirits, vinegar, and a farrago of other ineffectual remedies. He had also been bled, and a variety of topical applications employed, but all to no purpose." Dr H. saw him late in the evening, and finding him in great pain, with spasms, cold sweats, &c. immediately set to work. "I prescribed for him large opiates, *anodynes*, antispasmodics, and stimulants, both diffusible and permanent; among them were volatile alkali, ether, opium, camphor, amber, comp. tinct. of castor, lavender, brandy, cantharides, arsenic, and a host of others, without effect. Large doses of calomel and opium were also given; but the bowels were not in a situation to be excited by cathartics while the spasms continued." Finding that none of these remedies had the desired effect, although prescribed *ad libitum!* Dr H. relinquished most of them, and trusted solely to opium and ammonia. By pursuing this course through the night, and exhibiting the medicines in large doses, and frequently repeated, he ultimately succeeded in relieving all symptoms. As our readers may readily conceive, the patient had a slow convalescence!

30. *Treatment of Itching of the Scrotum.*—In a little elementary work entitled "A Practical Treatise on the Diseases of the Genital Organs, by Dr TITLEY," we find some remarks on a troublesome complaint, itching of the scrotum, which we have thought sufficiently useful to be offered to our readers.

After remarking that this disease is sometimes occasioned by ascarides in the rectum; and sometimes by friction from violent exercise in hot weather, &c. Dr TITLEY adds, that it occasionally arises from a morbid state of the skin, or superficial glands of the part. "In the latter case," he says, "the scrotum assumes a brown colour, and becomes thickened, scaly and wrinkled; the itching extends to the skin covering the penis, more especially along the course of the urethra, and the patient has little respite day or night.

"When the disease is dependent on this cause, it is very difficult of cure: it commonly occurs in old men, and renders life truly miserable. Sulphur applied to the part, and sulphurous waters taken internally, are sometimes useful, but I must confess, that I have often witnessed their unsuccessful employment. In some cases, I have used with much benefit a lotion composed of the emulsion of bitter almonds with oxymuriate of mercury, at the same time giving Plummer's pill at night, with a powder containing a scruple of soda, and a drachm of sulphur three times a day. As a general rule, greasy applications aggravate the complaint; but in two cases I have used, and with much benefit, an unguent composed of one drachm of powder of opium, with an equal quantity of carbonate of soda, to an ounce of lard."

31. *Treatment of Puerperal Mania.*—In a letter addressed to the Editor of the London Medical and Surgical Journal, and inserted in the March number of that work, Dr BLAKE, of Ipswich, sets down true puerperal mania as a disease

very nearly allied in its nature to delirium tremens, "although it does not arise from precisely the same causes," nor observe exactly the same paroxysmal form.

"It is a well known fact," he remarks, "that during the greater part of the period of utero-gestation, the vascular system is in a highly plethoric state, and the blood itself exhibits, when drawn, properties similar to those which exist in it during the height of inflammation;* now it must seem evident that such a condition, existing for so many months in the animal economy, cannot fail to act, through the medium of the blood-vessels, as a strong and continued stimulus to the brain and nerves; it therefore ought not, in my mind, to appear surprising, that in peculiar states of the female constitution, mental alienation, or puerperal mania, should be the consequence of the sudden privation of such powerful and long accustomed stimulation, which is the natural result of parturition and its consequences. The brain and nervous system in this case suffer, subsequent to delivery, from the loss they have sustained by the sudden privation of that stimulus which was afforded to them during gestation, by the distension of the blood-vessels, and the stimulating nature of their contents, in the same way as I have explained delirium tremens† to supervene in subjects accustomed to the stimulus of ardent spirits, &c. &c. on the sudden cessation of their habitual intemperance. Like delirium tremens, also, this disease does not come immediately on the occurrence of the cause, but takes a given time, according to the nature of the constitution, and the degree of previous stimulation, before it becomes developed, and extreme debility in both cases is generally observed to precede the stages of delirium; in short, puerperal mania seems to me to run a course, though generally much more protracted than that of delirium tremens, which would entitle both disorders to be arranged in the same class, order, and genus."

As regards the treatment, he says, "Our object should, of course, be to endeavour to induce such a state of the system as would resemble, in the greatest possible degree, that which existed previous to delivery. To effect this, the horizontal position should be carefully observed, in order to favour the ascent of the blood to the head; on the same principle the abdomen should be properly supported by a roller, and all drains on the system, such as giving suck, &c. should be particularly avoided. The various secretions should at the same time be carefully regulated, and local determinations relieved on general principles; during all this the strength ought to be supported by a light but nutritious diet, together with a moderate administration of diffusible stimuli, joined to sedatives, antispasmodics, and tonics, as the peculiarities of each case might indicate. These, with good air and the usual attentions, both moral and physical, which are found advantageous in the guidance of insane patients, are, apparently, the means most likely to prove efficacious in this often times very distressing nervous delirium; and on reference to the works of DENMAN, Professor BURNS, Drs GOOCH, MARSHALL HALL, ABERCROMBIE, RYAN, and others, they will not be found to differ essentially in principle from the *methodus medendi* proposed by these authors, although they have not taken the same view of the causes of the disorder that I have ventured to do."

He suggests the propriety of resorting, in extreme cases, to transfusion.

32. *On the use of Lavements.*—Lavements are now made use of, and very happily too, much more frequently, in this country, than formerly. In England, also, we find that the prejudice once existing against them is fast wearing away, so that before long our English brethren, while protesting vehemently against the inefficiency of French practice, will probably adopt some of the innocent and mild means so usually resorted to in France, for meeting certain indications which are now met by them with perturbative remedial agents. We hail

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* Vide Edinburgh Medical and Surgical Journal for Oct. 1823, or the London Medical and Physical Journal for Nov. of the same year.

† See a paper on the buffy coat of the blood, in the Medical and Physical Journal for November, 1829.

this change, both in our country and England, with pleasure, as we have had sufficient experience with lavements to be aware, that under a great variety of circumstances, they will be found not only safe, but more efficacious than the remedies formerly resorted to to attain the object for which they are employed.

We have been led to these remarks by perusing a little work lately published in England, by Mr G. Scott, Surgeon, and entitled "Commentaries on the use of Lavements." Mr Scott's attention was first called, seriatim, to the subject, during a residence in France, where, according to Dr Johnson, "the glyster pipe is as common as the tea-pot in England." We extract from the Medico Chirurgical Review for April, the following summary of Mr Scott's directions respecting the kind and mode of employment of lavements, where the object of the physician is to remove costiveness or open the bowels.

"1. To remove costiveness merely, the object is to break the hardened and accumulated feces by warm water, or soap and water; a tablespoonful of soft soap to the pint of fluid. Water gruel, linseed tea, or other mucilaginous fluids, may also be employed, or olive oil, treacle, sugar, &c. This is the domestic enema.

"2. The temperature of the injection should be rather above that of the body, but not much. It should never be so hot as to cause pain, for then it is thrown off too soon.

"3. The quantity of fluid is of some consequence. Most people err in this respect. They use too small a quantity. It should never be less than a pint; and often as much as two or three pints. The liquid should pervade the whole of the colon, or even pass the valve. It then stimulates by its temperature, fluidity, and the distension it produces, thus exciting not only the colon and rectum, but by sympathy, the whole line of small intestines. If the injection be slowly pushed up, we may easily introduce two or three pints of warm water, before the nisus to throw it off commences. Mr Scott injected into the bowels of a small female, *post mortem*, seventeen pints of water, and even then the intestines were by no means forcibly distended.

"4. The best time for the exhibition of an enema is the morning, after breakfast. It should be retained till a pretty smart desire to expel it occurs. It is better even to let it remain and be absorbed, than to throw it off ineffectually. The slower the fluid runs up, the more will be received. A sudden distension of the rectum and colon generally causes a sudden reaction and expulsion. The first impulse should always be resisted.

"5. Mr Scott says, the bladder should be emptied before the injection is thrown up, as a full bladder sometimes obstructs the operation. In ordinary circumstances, however, this is not essential.

"It is hardly necessary to state, that various aperient substances may be added to water, when the simple injection fails. Extract of colocynth, salts, common salt, castor oil, &c., may be used, in various quantities, according to the nature of the case."

But enemata are not merely beneficially used with the view of emptying the bowels. In every case of febrile, or other gastro-enteritic irritation,—in colitis, whether attended with diarrhœa or dysenteritic symptoms, enemata may be employed with the most decided success. When there is mere irritation of the intestines, unattended with discharge of mucous or blood, cool water alone, or combined with vegetable acids, will be found useful. In other cases, mucilaginous infusions, or milk and water, of an agreeable temperature, will be productive of the greatest advantage. We need hardly add, that in many cases it becomes necessary to employ astringent substances in this way, and that in a variety of cases opium acts more beneficially when thus used, than when taken into the stomach. Had enemata of the different sorts mentioned no other advantage than that of allowing remedial means to be employed, without disturbing the stomach, the mucous membrane of which is not to be trifled with, they would certainly deserve to attract the attention of our physicians more than they have hitherto done.

33. *Morbid effects caused by Iodine.*—A paper on this subject has been pub-

lished by a Dr JAHN, in the Journal Complementaire for February 1830. He informs us that in the part of the country where he resides, there prevails a species of bronchocele, which to all appearances is a simple hypertrophy of the thyroid gland. He affirms that this affection is never seen where the water springs from ground that is basaltic or porphyritic, granitic, or gravelly; whereas it is constantly observed where the waters issue from calcareous soils, and contains a quantity of lime in mixture. Iodine is the remedy which is generally employed for bronchocele in that part of the country, and he has had ample opportunity, he says, for remarking its effects on the animal organization. ORFILLA showed that this powerful medicine, in large doses, occasions pains in the stomach, malaise, vomiting, diarrhœa, syncope, oppression, ptyalism, tremors, &c. Symptoms of this kind were observed by our author, in a man who had swallowed, by mistake, an inordinate dose of the tincture of iodine. In other cases, where the medicine was merely continued longer than proper, Dr J. was struck with the slow but great absorption of fat, preceded by an augmentation of all the secretions and excretions. He observed the skin became dark coloured, and the perspiration viscid; the breathing embarrassed; the urine abundant; the bowels loose and very bilious; the catamenia (in females) more copious. From these phenomena our author argues, that the functions of the venous and absorbent vessels are much increased, in proportion as the nutritive system has been diminished. The blood, he says, becomes thinner than natural, and less abundant in fibrine. If the medicine be continued in these cases, various bad consequences ensue. He mentions two cases where he opened the bodies of patients who laboured under the effects of the excessive use of iodine, and where the emaciation was extreme, and the viscera in a very flabby state. Still Dr J. considers the medicine in question as one of the most valuable which has been discovered within the last hundred years. Indeed, he terms it "un remede divin."

In scirrhous of the pylorus, Dr J. affirms that iodine has sometimes removed the malady when early applied, and when aided by leeches. The same has been stated by WAGNER, HANNEMAN, HUFELAND, and others.—*Medico-Chirurgical Review for April* 1830.

34. *Electricity and Galvanism.*—Electricity and Galvanism have long been used in the treatment of paralysis, muscular debility, amenorrhœa, rheumatic pains, deafness, asthma, and other complaints of a similar kind. They have at different times excited considerable noise, and after this has subsided, have given way to some other more fashionable means. Within a few years their use has been revived, particularly in France, where several physicians have applied themselves to the investigation of the rules which are to govern us in their employment. Some large establishments have been formed in Paris, where patients requiring these means are sent by the medical attendants, and are placed under the direction of physicians who devote themselves almost exclusively to the subject. In this country, these remedial agents are, we are sorry to state, left in great measure in the hands of empirics. This is the case, we know, in this city, where the only chance of enjoying their benefits, is to seek out some place where an electrical or galvanic apparatus is established, for purposes of curiosity or instruction, or to apply to a person who styles himself Doctor, but has never enjoyed the advantages of a medical education, and is, so far as we have been able to see, incapable of conducting an electrical or galvanic treatment, on rational principles. In New York, the practice is in the hands of a German baker, equal in erudition to some of our panacea doctors.

In the Western states, the subject seems to have attracted the attention of many respectable members of the profession, as we may infer from the following extract of a letter, which was placed in our hands by the late Dr BROWN, and was addressed to him by an intelligent practitioner of Kentucky.

A short time before I received your favour of the 22d May, I wrote to you, and gave you a brief account of the success of my experiments (in a medical point of view) in galvanism and acupuncturation. Since I wrote to you, I have

had repeated opportunities of testing, *in a striking manner*, the efficacy of galvanism, when *properly* applied, in the cure of many diseases, both local and general. I will give the history of a few cases.

Mrs T———, a lady about twenty-four years of age, of a robust and plethoric habit, and the mother of four children, was violently attacked with cholera morbus, attended with tetanus. All the usual remedies had been resorted to without much alleviation of the symptoms, such as vomiting, severe pain in the head, stomach, hypochondria, and such other parts of the body as were alternately seized with the cramp, particularly the hands and arms. The galvanic influence was first sent through the lungs and stomach, in as strong a current as could be borne without complaint, and maintained about ten minutes; at the end of which time, the nausea, dyspnœa, and choking sensation, and much of the pain in the stomach and hypochondria, disappeared. The galvanism was next applied by touching a small plate, attached to the nape of the neck, with the positive wire, and two negative wires were brought in contact with silver spoons, grasped firmly in the hands, previously moistened with dilute muriatic acid. Strong convulsions were produced in the hands and arms; and in about six or eight minutes the cramp entirely subsided. By varying the application of the galvanism, at intervals of fifteen or twenty minutes, and continuing each application eight or ten minutes as strong as could be conveniently endured, every unpleasant symptom completely disappeared. The administration of a little carbonate of ammonia brought on a mild diaphoresis, and the patient fell into a calm sleep, which continued several hours, and on awaking, felt nearly as well as before the attack, with the exception of weakness.

Although I have considered the above case as an attack of cholera morbus, I believe it ought rather to be considered a case of hysteric colic as described by SYDENHAM. Mrs T. has been subject to similar attacks frequently, since the birth of her last child; and she attributes them, in a great measure, to an injury which she received on that occasion. She never had a more violent attack than the last one, and was never so *promptly* relieved. I therefore attribute this prompt relief to the use of galvanism, and cannot but consider it as an invaluable remedy in all similar cases.

In addition to the above, I might enumerate many more instances of nervous derangements—such as sick headache, pyrosis, neuralgia, dyspeptic nausea, &c. which have been entirely relieved by a few galvanic applications.

My lady is subject to frequent attacks of sick headache, particularly after eating, which are always relieved by the application of galvanism for a few minutes, sent through the stomach. But among the most conspicuous of these instances are Mrs E. and Mr W., with the history of whose cases you have already been made acquainted. Mr W. is in the daily habit of using the galvanic apparatus after every meal; and while he continues to do so, no dyspeptic symptom occurs: and he is entirely free from all those local affections, such as swelling and pain in one of his legs, which have always been considered by all his physicians as rheumatic affections.

If no other proof had been afforded me of the decided beneficial effects of a judicious and persevering application of the galvanic influence, in cases of nervous debility and cachectic states of the system, Mrs E.'s case alone would be sufficient to establish my faith. You observe in your letter to me, that you hope important changes have been made in her case. I think I can safely assure you that such changes have been made. Since you left here, she has been much more communicative to me respecting the minutiæ of her complaint—as I have often told her that upon such communications much depended as to the curative plan to be adopted. She now assures me that she feels more "*like herself*" than she has done for the last fifteen years.

Among the physicians of Paris who have paid the greatest attention to this subject, we notice with pleasure Mr SARLANDIERE, whose name has been noticed several times in this Journal in reference to his researches on acupuncturation, Japanese moxa, &c. One of the late numbers of BROUSSAIS's Annals contains a valuable essay on the use of galvanism, electricity, acupuncturation, &c.

in nervous complaints. Dr S. describes in it several interesting cases. The first is one of muscular debility, impotency, attended with engorgement of the venous and lymphatic systems. By means of electricity, compressive bandages, and a few moxas to the several regions, the cure was completed in a few months. The disease had been of long standing, and had succeeded to frequent attacks of gastritis. The second case was one of partial paralysis of the pharynx and left arm. The disease was of seven months' standing, and was cured in fifteen applications of electricity. The subject of the third case was affected with paralysis of the sense of touch. At first electricity was applied to the palm of the hand, but without success. Electricity and galvanism were then alternately used, and applied from the region of the cerebellum to the end of the fingers. In fifteen days the cure was complete. Mr S. thinks that in this case the paralysis was seated in the brain. In the succeeding cases of paralysis mentioned in the essay in question, the disease was cured by the same means, aided in some instances by electro-puncturation, urtication, &c.

V. MEDICAL JURISPRUDENCE.

35. *Case of supposed Poisoning by Arsenic, by Dr* S. Jackson, *of Northumberland.*—We notice, in our respected contemporary, the American Medical, a paper by the above able investigator, which we regret our inability to insert entire; it being so difficult to do justice to these medico-legal articles without giving them *in extenso*. As, however, our calculations will not admit of this, we will endeavour to present an abridged statement, under every disadvantage.

A man named Logan, resident in Northumberland, Pa., had wounded his foot, and lost by it a large quantity of blood. After an exposure to severe cold, he returned home intoxicated. Next day, February 1st, he was attacked with inflammatory fever, pain in his head, back, limbs, and particularly in the leg which he had recently cut. Dr Jackson treated him by the antiphlogistic method, including bleeding and purging; the man took fresh colds, and, about the fifth day, had a slight cynanche tonsillaris. On the sixth and seventh days the fever appeared to yield; but on the following morning he was much worse. Dr J. found a vein inflamed round the orifice of a former bleeding. He was again bled, and the arm blistered, but the inflammation increased; the pulse was "hard, wiry and jumping," and the skin very hot and dry. Twenty-four hours before his death he was slightly delirious; there were some fits of exhaustion, but no pain in the breast; and the arm was very painful on the least motion. The blister rose well, but without benefit. He took one-third of a grain of tartar emetic every hour during most of his sickness, and it was continued till midnight of this day. His stomach bore this well. He was now bled six ounces, and a blister applied higher up the arm. His skin was at this time hot and dry, his pulse corded and strong; there was slight delirium and anhelation; but he complained of nothing but his arm. He slept none, was slightly delirious, complained heavily of his blister and his arm, but of nothing else, and expired at near six o'clock next morning.

From the above symptoms, which Dr J. records from memory, after the lapse of eight days, he infers that he had to deal with a common inflammatory fever, aggravated by an inflamed vein. In this diagnosis he was confirmed in part, on finding, by dissection, performed by him and Dr Rodriguez, that the vein was in reality violently inflamed. The wife insisted on staying in the room, and then went into a fit of hysterics; in consequence of which, no suspicion of poison having as yet been broached, the dissection was closed.

According to Dr J., there was no vomiting, no purging, except from the effect of medicine, no pain or sensation of heat complained of in the stomach or bowels, no nausea, except what appeared to arise from the antimonial tartar; no spitting, sickness, cold sweats, nor tooth-edge; no cramp, numbness, nor paralysis of the extremities; the countenance was not changed, nor the blood dissolved after

death. Dr J. visited him two or three times every day, and four times on the day and night before he died.

A few days after interment it was discovered that the wife had procured arsenic at an apothecary's, and reports injurious to her virtue began to be propagated. Three parcels of arsenic, one containing two drachms, on the 30th of January; another parcel about three days before, and two cents worth a few days after, appear to have been furnished to the woman and child; and according to the contradicted evidence of the latter, a fourth paper (supposed to be acetate of lead) on the 5th or 6th of February. The corpse was disinterred, and given in charge to Drs ROBINS, GILBERT, and PRICE, to whom was subsequently added Dr J. HOTTENSTEIN.

Various circumstances were deposed, tending to prove that the arsenic was used for poisoning rats, with the consent of the husband; and others going to establish a good character, and to show that there was no assignable motive for so shocking a crime. It appeared that she had opportunities of escape, of which she neglected to avail herself. Dr JACKSON was not allowed to be present at the dissection; for what reason does not appear.

The examiners reported in writing as their opinion, that the deceased came to his death by poisoning with arsenic; "the same being evidenced both by the appearance of the stomach, and a variety of chemical examinations to which the contents of the latter were subjected, all clearly indicating the presence of that poison."

The following is the anatomical part of the minutes of the board of examiners.

"So soon as the stomach was exposed, ligatures were cast around the cardiac and pyloric orifices, so as to prevent the escape of its contents. It being removed, a longitudinal section was made through its anterior part. The contents were then put into a clean earthen dish.

"The general appearance of the stomach presented that of inflammation, but more so in the posterior part, (considering the subject in an erect position,) commencing about midway between its cardiac and pyloric extremities, and spreading towards the latter, the villous lining of which was discoloured and eroded, presenting an inky appearance, apparently the effect of some corrosive substance, (though frequently the effect of some other cause than arsenic.) The dissection of the vein was continued to the shoulder. The inflammation did not appear to extend more than an inch, &c." There appears to be something wanting to complete the sentence.

We are also furnished with parts of the depositions of Drs GILBERT and HOTTENSTEIN, and of WILLIAM A. LLOYD, taken before justice Pleasants. They are subjoined as follows:

Dr GILBERT. "The stomach, generally, upon its internal surface, presented an inflamed appearance. The inner coat of the posterior part, in an erect position, being between the curvatures, and nearly equidistant between the two extremities, approaching nearest the cardiac orifice, was discoloured and corroded to the extent of from eight to ten square inches. The discolouration was bluish-black, or rather inky. The erosion was such as to destroy the texture of the inner coat, which was easily removed. The parts of the stomach adjacent to the discoloured part, or rather the whole floor of the stomach, when in a passive position, was more inflamed than any other parts."

Dr HOTTENSTEIN. "I found in the interior surface of the stomach a large dark spot, of about two and a half inches diameter. Some small dark spots, between a gray and a black, were scattered over the internal surface of the stomach; some as large as a pin's head, but not elevated. On the outside of the stomach, over the large dark spot, there was considerable marks of inflammation. The blood-vessels had been considerably enlarged, as I thought, compared with those of a sound stomach, and of a red colour, or pink. The villous coat, on the large dark spot, had been considerably eroded and softened, but not eaten through. I did not see any ulceration. The stomach had a pale appearance, except near the pylorus, where it was yellowish. I do not recollect any other marks of disease. I never saw a stomach ulcerated or inflamed."

Mr LLOYD. "He saw the stomach within two hours from the time it was taken from the body. He had seen several other human stomachs, both inside and outside. Logan's appeared to be good and sound, excepting the coloured part. He particularly examined this coloured part; which was of a lead or French gray, about as large as the palm of his hand. The outer coat was perfectly sound, and not coloured; he held it up, and saw no redness but the veins. The intestines looked white on the outside; he did not see them opened. Logan was an intemperate drinker for the fourteen years that he had known him, and employed him occasionally, and would sometimes drink half a gallon a day, and would become drunk before dinner."

We do think, from the statements as thus presented in Dr JACKSON's paper, that he has made out a case of inflammatory softening, known so frequently by the French term "ramollissement;" which may have been occasioned by an inflammatory irritation, either chronic or acute; but which most probably was, or at least had been, the former. Certainly there is no evidence in these morbid appearances, that they were caused by arsenic. This question must be tried by other proofs, and we think the other poison mentioned, viz. spirituous liquor, was amply competent to produce the appearances described. Dr J. remarks that the intestines were not internally examined; though Drs MALE and BAILLIE, and Mr BRODIE, found the rectum frequently the seat of the severer lesions. It is, we believe, acknowledged, that arsenic in the human stomach, or in wounds, does not act by chemically corroding the living solids; and that when erosions exist, they are the products of irritation.

Dr JACKSON has made a number of sensible criticisms on the chemical investigations connected with the case, which show that his acquirements have kept pace with the progress of chemical science in the detection of poisons. We agree with the doctor that the liquid tests for arsenic can be viewed in no other light than presumptive evidences of the poison, while its reduction to the metallic state, with its characteristic properties as a metal, is the only irrefragable proof of its presence. Indeed it is the only proof which ought to be brought forward by chemico-legal investigators, or admitted in a court of justice, on the plain principle, that it is the *best proof*, and, therefore, must be received to the exclusion of any other.

We therefore agree with Dr J. that the jury of physicians in this case were wrong in testifying that Logan died in consequence of poison from arsenic, depending for their judgment on the morbid appearances and the liquid tests. The morbid appearances may be thrown out of the question, as it is conceded that spontaneous diseases produce changes not to be distinguished from those caused by arsenic; and the liquid tests produce only presumptive proof. The progress of justice will not be arrested by these principles; because it may be assumed, that where liquid tests indicate arsenic, the appropriate management will bring it to the metallic state, provided it was originally in sufficient quantities to produce indisposition or death, and all other cases are irrelevant.

Thus it may be asserted that the liquid tests for arsenic are only useful in preliminary examinations to *indicate* the presence of the metal, and to bring it into such states of combination as may furnish convenient compounds to be reduced. These latter being reduced, furnish the only *incontestible* proof of the presence of the metal.

To show that we are correct, that in all cases occurring in medico-legal investigations the arsenic may be metallized, we adduce the assertion of BERZELIUS, that the sixth part of a grain of the sulphuret of arsenic is sufficient to make *three different trials* in reduction. See vol. ii. p. 442 of this Journal, where this fact is stated, and where BERZELIUS gives it as his opinion that the reduction of the arsenic is the only proof of the presence of the metal which should be admitted. It is no doubt true that BERZELIUS, on account of his great dexterity and experience, may be able to manipulate on a smaller quantity of arsenical precipitate than an unpractised physician; but admitting this, it hardly seems probable that, in any case of poisoning by arsenic, less than a sixth of a grain of precipitate should be obtained, and if the experimenter obtains that quantity, he has three times as much as will suffice in BERZELIUS's hands.

But if the liquid tests are not to be depended on when they indicate arsenic as clearly as they are capable of doing, how much more exceptionable are they when they fail in part in producing their appropriate tints. Thus, what are we to say of the lunar caustic test producing a white instead of a yellow precipitate in the first instance? Dr J. shows the fallacy of this test in the hands of the medical jury, by producing the same appearances with lunar caustic and the water of the pump belonging to the house where the experiments of the jury were performed. Again, if, where reduction has been omitted, other evidence must not be received, because imperfect and not the best, how much more necessary is it to reject such evidence, where *reduction has been attempted and has failed?* Dr J. very properly notices this point, and his comments are quite just.

Before concluding this article, we may mention that Dr CHRISTISON coincides with BERZELIUS as to the propriety of bringing arsenic to the state of sulphuret by sulphuretted hydrogen, and then reducing it by black flux. It is particularly necessary to reduce the precipitate here, as there are no less than four metals, namely, selenium, cadmium, tin, and *antimony*, which produce sulphurets of a similar colour. Sulphuretted hydrogen is capable of acting on arsenic in *all vegetable and animal fluids*, if previously boiled, filtered, and acidulated. Hence it furnishes an excellent means of collecting the arsenic if present. (See Turner's Chemistry, article Arsenic.)

Upon the whole, we will not say what would have been the result, if the attempts to reduce the precipitate had been made by competent hands; but we are free to express our decided opinion, that no chemical proof of the presence of arsenic, such as could be received in a court of justice sitting in a case of life and death, was furnished in this case by the medical jury. We need not add that the wife was acquitted.

VI. MATERIA MEDICA AND PHARMACY.

36. *Salivation by Colchicum.*—It is well known that colchicum, while it rather depresses than excites the action of the heart, has a tendency to stimulate the secretions, probably in consequence of the absorption of its active principle, which is thus conveyed into the circulation, and comes into absolute contact with the secreting vessels. The diuretic, diaphoretic, and cathartic action of this medicine is familiar to every practitioner who has employed it: we learn from a paper by Dr R. J. BUCKNER, published in the April number of the Western Journal, that it also sometimes acts as a sialagogue. In a case of rheumatism, after depletion, the doctor directed one drachm of tincture of colchicum to be repeated three times a day. "The second portion produced slight vertigo, and burning heat of the fauces and stomach, followed by a pretty free discharge of saliva. The third or fourth dose produced complete *ptyalism*, a gentle moisture of the skin, and perfect relief from pain." The discharge was so copious that the patient was convinced he had "spit half a gallon" in less than twenty-four hours, and Dr BUCKNER states, that in ten years of pretty extensive practice, he had witnessed few cases of ptyalism from mercury, in which the saliva flowed more freely. A dose of calomel and jalap had been given at the commencement of the case; but as it had operated freely on the bowels, as several days had elapsed, during which no preparation of mercury was used, and as the mercurial fetor of the breath was wholly wanting, the salivation appears to have been justly ascribed to the colchicum. Nor was this effect confined to a single case. We are informed by the doctor that whenever he had found the medicine decidedly beneficial, it had invariably produced an increased flow of saliva to a greater or less degree. Colchicum has been one of our favourite remedies in the treatment of certain forms of gout and rheumatism; but this peculiar effect has escaped our notice, possibly because our attention has not been directed particularly towards it.

37. *Metastasis of the External Action of Tartarized Antimony.*—We are furnished with the following notice, by the April number of the London Medical and Surgical Journal. The ointment of tartarized antimony was rubbed twice a day for sometime on the breast of a patient, without producing any irritation in the part to which it was applied: but a great number of pustules, of the precise appearance of those usually arising from this irritant, made their appearance upon the scrotum, which they completely covered. On the discontinuance of the ointment, the pustules disappeared, and when it was resumed, a new crop arose. Particular inquiry was made whether the patient might not have conveyed some of the ointment by his hands to the scrotum; but it was said that he had never made the application himself, and that a cloth placed upon the breast prevented his access to the ointment after it had been applied.

38. *Turpentines Solidified by Magnesia.*—From the strong analogy between copaiba and the liquid turpentines, it was a natural inference that the effect produced by magnesia on the former, would result from its admixture with the latter; and the fact has been positively established. The following are the conclusions deduced by M. FAURE of Bourdeaux from his experiments. 1st. That turpentine may be solidified by magnesia; 2d, that this effect may be obtained, even though a portion of the essential oil be added; 3d, that these substances lose none of their characteristic properties by the mixture. The following formulæ are given. Take of turpentine fourteen drachms, magnesia thirty-six grains: mix them in a marble mortar. At the end of five or six days a mass is obtained fit to be formed into pills. Should it become too hard, it may readily be softened by the aid of warm water. Take of oil of turpentine two drachms, turpentine six drachms, magnesia thirty-six grains: mix them in a mortar. The mixture solidifies in seven or eight days, and should be preserved in a close vessel.—*Journal de Chimie Médicale, Fev.* 1830.

39. *The Extraction of Morphia Facilitated by the Fermentation of the Opium.*—In a former number of this Journal, January 1829, a notice was inserted of the experiments of M. BLONDEAU, from which it appeared that a much larger proportion of morphia could be obtained from opium with the aid of fermentation than by any mode previously adopted. The particulars of his process, which had not then been published, we are now able to communicate to our readers from the Journal de Chimie Médicale, February 1830, in which is contained the original paper of M. BLONDEAU, read before the Royal Academy of Medicine at Paris, A.D. 1828.

The purest opium having been selected, and suitably divided, is introduced into a vessel, and covered with twice its weight of warm water, previously mixed with a small quantity of yeast from beer, and of honey. The proportions are, of opium 1 kilog. (2 lb. 8 oz. 1 dr. troy), honey 100 grs., yeast 60 grs. The mixture is then placed in a stove, heated to 20° or 25° Reaumeur, (77° or 80° F.) Fermentation soon takes place, and terminates in the course of 8 or 10 days. The liquor, which smells decidedly of alcohol, is strained through a fine linen cloth; and the residue having been washed repeatedly, is expressed. The liquors are now mixed together, and sufficiently concentrated, and when they become cool, a slight excess of ammonia is added. A precipitate takes place, consisting of crude morphia, which is purified by means of diluted muriatic acid and ammonia, in the manner directed by MM. HENRY and PLISSON. (See vol. v. p. 202 of this Journal.) The fermentation is supposed by M. BLONDEAU, so far to decompose the resinous and colouring or extractive principles of the opium, as to lessen the force with which they retain the salt of morphia, and thus facilitate its complete separation. The author states as the result of numerous trials of his own process, compared with that of MM. HENRY and PLISSON, from which it differs simply in the employment of fermentation, that the quantity of alkaline base procured by the former, exceeds that procured by the latter in the proportion of 8 to 5.

The results, however, obtained by M. BLONDEAU, have not been confirmed to

their full extent, by a committee consisting of MM. GUIBOURT and ROBIQUET, appointed by the Royal Academy to repeat the process, and ascertain its relative merits. These gentlemen, after numerous experiments, came to the following conclusions: The quantity of crude or impure morphia procured from opium submitted to fermentation, in the mode recommended by M. BLONDEAU, is considerably greater than that yielded by an equal portion of the drug treated in the ordinary manner, with cold water; but in the process for purifying it by solution in muriatic acid, and precipitation by ammonia, this excess is lost, and the proportion of pure alkali is very nearly the same in both cases. If, however, the purification, instead of being effected by the plan of MM. HENRY and PLISSON, is accomplished by means of alcohol, according to the old process, the product of the fermented opium retains, in the pure state, at least a portion of that excess which it had when impure. MM. GUIBOURT and ROBIQUET, obtained from one kilogramme of opium, submitted to fermentation, 2 oz. 4 drs. 36 grs. of pure morphia, while the same quantity treated in the ordinary manner, furnished only 2 oz. 3 drs., showing an advantage of one drachm and a half to the kilogramme in favour of the former process.

On the whole, we would recommend to those engaged in the preparation of morphia, the adoption of the plan of fermenting the opium in the first place, and following in the subsequent steps of the operation the process proposed by Dr STAPLES, which is well known, and has been generally followed in this city.

40.—*Residue after the evaporation of the mother-waters of sulph. quinia. The existence of a new alkali in Peruvian bark denied.*—Our readers may remember that we announced in our number for October last, the discovery of a new alkaline principle in cinchona, by the celebrated SERTUERNER, who gave it the name of *chinioidine*. It was said to exist in the mother-waters of the sulphate of quinia, united with a sub-acid resinous substance, from which it was separable with great difficulty. The residue obtained by evaporating the liquors left after the crystallization of the sulphate of quinia has been for many years kept in the shops, and employed by the physicians of this city, under the incorrect name of extract of quinia, originally given to it by the manufacturer. Till SERTUERNER's discovery was announced, we had always considered it a mixture of resinous matter with sulphate of quinia, rendered soluble in water, and uncrystallizable by an excess of sulphuric acid. On account of its greater cheapness, we have habitually employed it for several years as a substitute for the sulphate of quinia in the treatment of intermittents, and have found it, in double the dose, to be equally effectual; nor could we ever discover any difference in its results from those obtained from the pure salt. The disease was checked with the same facility, and proved equally liable to return after its use; nor were we prepared, though admitting the possibility of the existence of a new organic alkali in its composition, to join in the extravagant eulogiums pronounced upon the extraordinary medical virtues of this alkali by Dr SERTUERNER, (see this Journal vol. viii. p. 434); at least we had never discovered them in the substance from which it was thought to have been obtained.

In the Journal de Chimie Médicale, vi. annie, p. 159, we find the following notice. "*Society of Pharmacy—sitting of the 11th of February.* M. HENRY the younger, in his own name, and that of M. AUGUSTE DELONDRE, read a paper upon the treatment of the mother-waters of the sulphate of quinia. These chemists had been induced to search in these waters for the new alkaline principle announced to have been discovered in them by SERTUERNER, but a series of experiments led them to the conclusion that there was no such alkali, and that what SERTUERNER had taken for a distinct alkali, was a mixture of quinia, cinchonia, and a peculiar yellow matter, which MM. HENRY and DELONDRE found great difficulty in separating."

We hope that the paper above alluded to will be published in some of the French Journals, as we are desirous of laying its contents more in detail before our readers. We feel more particularly interested in the subject, as we believe that the residue of the mother-waters of the sulphate of quinia was first introduced into medical practice in our city. The first published notice of it that we have

seen, is contained in the 2d No. of the Journal of the Philadelphia College of Pharmacy—1st series, A.D. 1825—communicated by Mr JOHN FARR, who originally suggested its employment. It had been used by several physicians in Philadelphia before the appearance of Mr FARR's paper.

From a notice in the *Archivés Generales* for February last, extracted from the *Annali Universali di Med. Milan, Dec.* 1829, it appears that the same preparation has been used very advantageously in Italy. Fifty-six cases of intermittents were treated with the extract by Dr CASATI; all were cured, and in not one instance was there a relapse. From eighteen to thirty pills of two grains each were sufficient to effect the cure. We have ourselves used the medicine in considerably more than one hundred cases; and have very seldom failed; but our patients have not always been so fortunate as to escape relapses, which are as frequent after this preparation as after the pure sulphate. The mode which, in our experience, has proved most effectual in preventing the return of the disease, is to anticipate the period of expected recurrence, which, so far as we have observed, is, in this neighbourhood, generally about two weeks from the last chill, by administering the extract in the quantity necessary to check the disease when already formed. Twelve pills of two grains each, given in the intervals between the paroxysms, will often be sufficient to effect a cure; if not, the same quantity should be repeated in each succeeding apyrexia till the chills are suspended or the medicine abandoned.

41. *Effects of Stramonium.*—In a paper by J. L. GREDING, physician to the hospital of Waldheim, (in Sweden), published in the first volume of the *Adversaria* of Ludwig, and condensed in the Révue Médicale for December 1829, we are furnished with the following facts relative to the physiological effects of stramonium, derived from the use of that drug in no less than forty-six cases. Dr GREDING commenced with the dose of one grain night and morning, which was gradually increased. Of one parcel he ultimately gave from eighteen to twenty-four grains in the twenty-four hours; of another, which was much stronger, he could not venture to prescribe a larger dose than six grains.

In almost every instance the patient, soon after commencing the use of the medicine, fell into a sleep which, in the great majority of cases, was tranquil, in seven was rather more prolonged than usual, and in seven others was noisy and turbulent. The sight was weakened and blunted in all those who took the stronger preparation. They had scarcely swallowed a single grain when they began to experience this symptom, which lasted about two hours. The vision of some was so much obscured that they seemed to themselves to be enveloped in a net work of silk; in others the eyes were affected with scintillations, and objects appeared vacillating; two or three saw double. These affections of the sight entirely ceased immediately after the suspension of the medicine, and left no inconvenience behind them. The head was variously affected. Six experienced a peculiar sensation, before noticed by ODELIUS, which the patients explain by saying that their heads are covered with clouds; fourteen complained of a violent headache, which frequently returned; six were affected with vertigo, one with attacks of fainting; in three the imagination was disordered; one alone experienced a complete mental derangement, which continued long after the use of the stramonium; three had, from time to time, a general redness of the countenance; and two who had been exposed also to other causes, were attacked with erysipelas in the face. There was generally more or less thirst, which was sometimes extreme and insatiable. In some instances the mouth and throat were very dry, in others an abundant salivation was produced. Only one patient had his tongue swollen. The appetite usually continued very good, and in many instances was even increased; in a few it was diminished for a short time, and in a still fewer was depraved. Nausea, vomiting and colic were occasional attendants upon the action of the medicine. The bowels were, in the greater number of cases, relaxed; in several were in their natural state; in a very few were bound. Sweating was usually produced, and often to a great extent. In eighteen cases the urinary secretion was considerably augmented. Menstruation was

excited in one woman who had not been regular for four years; it was more abundant than usual with four; and was brought on before the usual period in three others. Most of the patients were more animated and active than in their ordinary state. Three complained of torpor, heaviness of the limbs, and languor of the whole body. Besides these effects the following may be mentioned: severe hiccough in four females, rheumatic pains in five cases, fever to a greater or less extent in seven, an itching of the whole body in two, a dry cough, spitting of blood, violent pains in the præcordia, a cronic purple eruption, and a crop of biles, each in a single instance.

42. *Iodine Baths.*—Dr LUGOL, in a paper presented to the French Royal Academy of Sciences Dec. 14th 1829, strongly recommends iodine baths, of the utility of which in scrofula and other diseases he has convinced himself by numerous experiments. In the preparation of the bath the first thing to be considered is the material of the bathing tub. Dr LUGOL prefers wood to metal, as less liable to be chemically acted on by the iodine. Another important consideration is the quantity of the medicine which may be used with safety and advantage. This is less than might at first be supposed. In the practice of Dr LUGOL the proportion of iodine which he had proposed as the starting point, beyond which he was to advance gradually, became in the end a *maximum* which he thought it no longer proper to employ. The strongest bath which he now uses is formed by adding three drachms of iodine and six drachms of iodide of potassium to two hundred litres (about fifty-three gallons) of water; rather more than three grains of iodine and six of iodide of potassium to the gallon. For children the whole quantity should be reduced one half, two-thirds, or more, according to the age.

It is necessary that the iodine and iodide should both be added, as the former is not sufficiently soluble without the latter, and the iodide of potassium is comparatively inefficient; at least Dr LUGOL found that no appreciable action was produced by the quantity of three ounces to the bath.

To diminish the expense of the iodine baths in hospitals, M. HENRY, the younger, proposes that they should be emptied into a suitable reservoir, and the iodine precipitated by the acetate of lead.—*Jour. de Chimie Médicale*, A.D. 1830.

43. *Medical Properties and Preparation of Animal Charcoal.*—The German practitioners appear to have paid particular attention to the subject of animal charcoal as a remedy. Dr WEISE found it advantageous in glandular affections, scirrous enlargements, &c., and published the result of his experience in the *Magazin der gesammte heilkunde*, vol. 22. In the year 1825 Dr GUMPERT (de Posen) inserted a paper in the *Archiv. fiir Medizinische Erfahrung* which tends to confirm the facts advanced by Dr WEISE. Finally, in 1829, Dr WAGNER presented some new data in the *Journal der practischen heilkunde*, which Dr KUHN made known in France, and which induced him to consider animal charcoal as a medicine possessed of the resolvent properties of iodine and mercury, without their injurious influence on the constitution. In support of his opinion Dr KUHN reports four cases of mammary tumours completely cured by the continued employment of animal charcoal. It is an observation of Dr WEISE, that while this remedy resolves the glandular swelling like iodine, it causes a diminution of the breasts. He also thinks that it exercises a considerable influence over the uterus, and should not be given to pregnant women. It moreover excites perspiration and eruptions in the face, and when night sweats result from its use, the dose should be diminished. When given to a healthy person it is said to produce painful enlargements of the mammary glands, as well as swelling of the parotids; thus giving rise to the same affections in the state of health which it cures in a diseased condition of the system.

The animal charcoal of Dr WEISE is prepared in the following manner. Two parts of beef or mutton, deprived of fat and cut into pieces, are mixed with one part of bones well bruised, and exposed in a coffee roaster, (tambour a caffee), covered crucible, or other vessel, to a moderate fire, until a slight flame is per-

ceived to escape; after which the heat is to be continued for a quarter of an hour. The vessel is then to be removed from the fire, and the carbonaceous residue, when cold, is to be powdered and preserved in a well stopped bottle. Six parts of this powder are mixed with one of sugar, and two grains of the mixture are given morning and evening, with a little water. This preparation contains much less phosphate of lime than the ordinary animal charcoal. It is possible that the active ingredients in burnt sponge, which has so long been used in goitre, and which is generally supposed to owe its virtues to the exceedingly minute proportion of the salts of iodine or bromine which it contains, may, in fact, be animal charcoal.—*Journal de Chimie Medicale for March* 1830.

VII. SURGERY.

Mr JAMES SYME continues his interesting quarterly reports from the Edinburgh Surgical Hospital. During the quarter ending February 1830, four hundred and ten patients have applied for assistance, sixty-seven of whom have been received into the hospital, and the remainder been treated as out-patients. We shall select some of the more valuable cases.

44. *Fracture of the Fibula.*—Mr SYME adopts DUPUYTREN'S "ingenious, simple and effectual plan of treatment; viz. the application of a long, narrow wooden splint on the inner side of the leg, extending beyond the ancle and knee, between which and the tibia, a thick compress being interposed, while the knee and foot are drawn to the splint by means of a simple bandage, an effectual resistance is afforded to the displacing tendency from the weight of the limb, and from the peroneal muscles."

45. *Dislocation of the first Phalanx of the Thumb.*—Mr S. in a case of this luxation, operated by "fastening a silk handkerchief to the thumb by means of the *clove hitch*, and then making one person extend, while another performed counter-extension by holding the hand. I pressed with all the force of both my own thumbs on the extremity of the dislocated phalanx. After one or two attempts, I succeeded in effecting the reduction."

46. *Excision of the Elbow Joint.*—Mr S. continues to recommend this operation. (Vide North Amer. Jour. vol. ix. p. 222.) In November 1828, he cut out a carious elbow, the first time the operation was ever performed in Great Britain, and has since operated in six cases. He now reports two cases. The first was performed on a girl aged fifteen years, in whom the joint was greatly enlarged, painful, with ulcerated openings discharging matter freely, through which a probe could be passed to the carious bones. The limb was straight and immovable, the irritation great, and health declining. The whole joint was excised, and the ulnar nerve was necessarily divided. "The patient did extremely well; the wound healed most kindly; the swelling of the joint subsided; she gradually regained its use, and is now restored to perfect health." She entered the hospital on the 26th of August, and the operation was performed early in September.

A boy, aged eight years, was admitted on the 2d of January last with his right elbow much enlarged, discoloured and stiff. There were two sinuses on each side of the triceps, through which a probe could be passed to the bone. Excision was performed on the 12th of January; the wound healed kindly, and the patient is nearly ready to leave the hospital.

47. *Excision of the Knee Joint.*—This has been performed by Mr PARKS, of Liverpool, and Mr CRAMPTON, of Dublin, with success. Mr SYME has followed the example. His first case was John Arnot, aged eight years, whose left knee was much enlarged, and immovably bent at an acute angle with the thigh, with

two sinuses on the inner side of the joint, which allowed a probe to reach the bone. Excision was performed. No dangerous irritation resulted, but much difficulty occurred from the contraction of the flexor muscles preventing the suitable apposition of the sections of the leg and thigh bone. This was gradually overcome by continued extension and counter-extension. "Four weeks after the operation, the wound was all but healed, and the limb is now becoming every day more useful to the patient, who can already make considerable use of it in walking, though not yet provided with a high-heeled shoe."

In a second case, similar to the above, in a female aged seven years, excision was performed. The same difficulty was experienced from a contraction of the ham-strings, which could not be effectually obviated. In this case it was found that the os femoris was extensively denuded and diseased. The patient's strength became exhausted, and she died on the 8th of January. The operation was performed on the 28th of December.

Many other surgical cases are reported by Mr SYME, which manifest his ingenuity and science as a surgeon, and are well worthy of perusal, but which are not of sufficient importance to be transferred to our limited summary of intelligence.

48. *Scrotal Hernia.*—From the London Medical Gazette for Feb. 27, we learn that Mr BELL is an advocate for operating in certain cases of large scrotal hernia without opening the sac. He raises the edge of the ring where this forms the stricture on a director passed externally to the peritoneum, and then divides the pillar with a bistoury. In such cases there is far less danger of peritoneal inflammation; and the objection, that we cannot see the state of the intestine, is no more valid against this method of operating than against the *taxis* to which all resort before operating. Our readers are aware that this is by no means a new method, having been sanctioned by the authority of PETIT, MUNRO, PHYSICK, &c., but it is not followed as often as might seem, *a priori*, to be desirable.

Mr C. BELL objects, also, with apparent reason, to the common mode of reducing the intestine after opening the sac, by beginning with that portion which last came down. In this mode the surgeon introduces his finger through the ring, necessarily squeezing or compressing the gut, and each inch of the intestine, successively, is submitted to a sort of kneading process." The irritation to the already inflamed bowel must be very great, and well explains why so many patients perish of peritoneal inflammation after operations of this character. Mr BELL would advise that a moderate sized opening be made through the skin, and when the stricture is divided, whether the sac be opened or not, that the scrotum be grasped by the hand, the contents of the hernia squeezed out, and the hernia reduced. In this way the intestine is not exposed nor handled, which is so dangerous, and if the mouth of the sac be large, so that the intestines should again slip down, they will not be exposed in the wound, but be protected by the sac.

49. *Spasmodic Strictures.*—In the London Medical Gazette for March 6, 1830, a case of stricture is detailed, in which the belladonna appeared to be useful, when applied by means of a bougie, in allaying the irritability, and facilitating the passage of the instrument.

50. *New operation for Ectropium.*—The following operation for restoring permanently the everted eyelid in ectropium, is described and recommended by Dr J. F. DIFFENBACH, of Berlin, in the 3d number of the 30th volume "Rust's Magazin."

A semi-lunar incision is first to be made, a few lines distant from the edge of the orbit, through the skin, into the cellular membrane of the affected lid. The incision is to be formed directly in the centre of the lid, and to occupy about two-thirds of its extent. The lip of the wound next to the tarsus is to be dissected up, so as to loosen a considerable portion of the everted tarsus, when the whole

thickness of the lid is to be cut through to the extent of the external wound. A small pair of forceps being now introduced into the wound, that portion of the conjunctiva to which the tarsus is attached is to be drawn out at the external orifice, and the edges of the wound, together with the retracted conjunctiva, are to be held together by means of from three to five small needles, over which a thread is to be passed as in the hair-lip suture.

51. *Cystocele.*—The diagnosis of this complaint is often difficult, and should, if possible, be early made before adhesions have occurred. In the Revue Médicale, for December, a case is related of a female, who, for thirty years, suffered severely from dysury, in consequence of hernia of the bladder, through the left abdominal ring, complicated with an intestinal hernia in the same, and also on the opposite side, in whom the real character of the disease was unknown. She was supposed to labour under some dartrous affection of the mucous membrane, &c.

The following circumstances enabled M. RIBELL to recognize a hernia of the bladder.

1. M. P***, (the patient), finds the difficulty of urinating to be greater as the left inguinal hernia is most voluminous.

2. If a desire to urinate occurs, when the hernia is small the emission is easy, and occurs by jets; and if at this period the hernia escapes externally, or increases in size, the flow of urine is suddenly suppressed.

3. The patient has unconsciously learnt, that to urinate with the greatest ease and the largest quantity, he is obliged to elevate the hernia, and to render its neck the most depending position.

M. RIBELL engaged his patient to retain the urine as long as possible, four hours for example, and to keep himself erect, that the hernia might be without; the catheter being introduced, gave issue to about four spoonfuls of urine, and this only after reducing and emptying the hernia by taxis.

A powerful injection of water, to the amount of two tumblers full, caused, 1st, an excessive desire to urinate, the patient not being accustomed to retain so much fluid at once in the bladder; 2d, a very sensible increase of the size of the left inguinal hernia, although the patient was in a recumbent posture; and, 3d, an evident fluctuation in the seat of the hernia, especially towards its neck.

The right hernia could be reduced, the left not completely so. A fold of the intestine could be discovered at the bottom of the sac, and which constantly drew the testicle with it, when pushed to the mouth of the sac. When the neck of the hernia was pressed between the thumb and finger, it produced the sensation of two smooth membranes rubbing against each other.

Hence it would appear that M. P. has an irreducible hernia of the bladder, secondary to an intestinal hernia; that this has given rise to the dysury, but as the bladder is irreducible from adhesions, and no operation hence advisable, no radical measures can be adopted for his relief.

52. *Excision of an Ulcer of the Scalp.*—From the London Med. and Surg. Jour. for March 1830, we learn that at the Swansea Infirmary, a patient aged sixty years, of a bad habit, had a slow phagedenic ulcer of the scalp, near the vertex, which had resisted every variety of treatment, not excepting the destruction of its surface and edges successively by the lunar and vegetable caustic, and afterwards by the knife. The surgeon (name not mentioned) then thought that if he removed a larger portion, the ulcer might heal,—he did so by shaving off the surface of the wound as closely as possible to the pericranium. After this it perfectly healed in a few weeks—under the use, first, of a poultice, and then of the black wash; occasionally an ointment of the black oxide of mercury was also employed.

53. *Luxation of the Ulna backwards.*—A dislocation of the ulna backwards seldom occurs, without a corresponding displacement of the radius. Mr A. COOPER has met with a case in which the latter did not occur. In the Rev. Med. for January 1830, a case is detailed by M. BOUDAULT, of a man forty-nine years

of age, who fell from a height so that the whole weight of his body was received on the left arm, which was carried from the body, while the external portion of the arm, (as then situated), precisely at the point which corresponded with the coronoid process of the ulna, was violently contused and pushed backward by a large stone. Much hemorrhage occurred, and he was conveyed to the Hotel Dieu.

The hand and the forearm were in a state of flexion; the external part of the articulation presented a wound from eighteen to twenty lines in length, between the lips of which were observed portions of lacerated ligaments and muscles. The trochlear of the humerus was also perceptible with its smooth polished surface. Behind, the olecranon could be distinctly seen and felt from the prominence it created. On the outside the articulation presented nothing remarkable, the radius being in place, and could be easily rotated. The annular ligament was torn. The luxation was easily reduced; the lips of the wound were closed to facilitate union by the first intention and prevent suppuration of the joint, and the hemorrhage was suppressed by moderate pressure. The patient recovered without any accident. Inordinate inflammation seemed to be prevented by the loss of blood, and a bleeding which was afterwards resorted to.

54. *Extirpation of the Upper Jaw.*—From the Bibliotheq. Med. for December 1829, we learn that M. LISFRANC, on account of an osteo sarcoma, was compelled to remove the whole of the superior maxillary bone, with the exception of the orbitar plate and the nasal process. BARON LARREY mentioned that, from gunshot wounds, large portions of the upper jaw are often removed, and yet the patients usually do well.

55. *Bilateral Operation.*—In the Archiv. Gen. for February last, there is a memoir on the method of performing the bilateral operation for calculus in the bladder, and on the improved instruments of M. CHARRIERE, drawn up by M. P. MENIERE.

This method it appears is much practiced by DUPUYTREN, and recommended by him as superior to the common lateral operation, however performed. There is less danger of hemorrhage, the extraction of the stone is easily effected without distension of the wound, without contusion of the neck of the bladder, and without secondary or dangerous inflammation. We regret that we have no space for describing the instruments and mode of operating.

56. *Fungous Tumours under the Scalp.*—Although much light has been thrown on the nature of these tumours, originally described by LOUIS, of the Royal Academy, and of late years by SIEBOLD, KLIEN, WALTHER, GRAEFE, and many others, yet still their pathology and the treatment suited to each variety of the disease is by no means fully established. We think that much may yet be accomplished by the scientific and judicious surgeon. The Archiv. Gen. for February, contains a short notice of a memoir of EBERMAIER on these tumours, who fixes his attention on the fact, that they often arise from an original disease of the bone, resembling osteo-sarcoma or fungous hematodes; as well as from affections of the dura mater. Cases are given. We have room only for the following summary of one in which the glands of Pacchioni were the seat of the affection.

A female, aged forty years, had received, three years ago, some severe blows on the head, which deprived her of hearing and of sight. From this moment she experienced a severe pain over the whole head, but more violent towards the vertex, at a spot which the finger could cover. The pain continued to increase. Suspecting *that a sinus had become varicose*, they applied a trephine over the sagittal suture about an inch from the coronal. There was a free hemorrhage. The piece of bone removed, presented a depression caused by a very large gland of Pacchioni. This could not be extirpated without exposing the sinus. The pain immediately ceased, and the gland disappeared during the suppuration. The wound had scarcely healed, when the pain returned at a spot three lines

behind the opening made by the trephine. It continued for a year; the patient losing flesh and strength, and her sight being weakened. The trephine was again employed; another enlarged gland was exposed; the pain ceased immediately, and five years afterwards it had not returned.

VIII. MIDWIFERY.

57. *Case of Retroverted Uterus treated by Puncture.*—In the Ed. Med. and Surg. Jour. for April, Mr BAYNHAM makes some judicious observations on retroverted uterus, and insists on the danger of this accident when reduction is not early effected by manual interference. He is opposed decidedly to the opinion of many high authorities, that the evacuation of the bladder is in general sufficient, but insists that the uterus should be restored, to prevent inflammation of the bladder, with its destructive and fatal consequences. When early reduction is not accomplished, the case should not be abandoned to nature's efforts, but by some means reduction be accomplished. Where the uterus is too large to be restored by the hand in the vagina, he advises its size to be reduced by puncturing the membranes, if possible, through the os uteri, otherwise through the parietes of the vagina or rectum and uterus, and contends that puncture of the uterus is by no means so dangerous as has been imagined. The size of the uterus being reduced, reduction can be accomplished, and labour supervenes. He cites the case of Hannah Martin, aged thirty, admitted into the dispensary on the 28th March, 1828, in the sixth month of pregnancy, and who had six weeks previously suffered a retroversion of the uterus. The case was not understood by her attendants, and it was a month before the catheter was introduced, and then no examination per vaginam was made. M. BAYNHAM found her on the 28th, with a high fever, frequent indistinct pulse, vomiting, constant micturtion, tenesmus, fulness and tension of the abdomen. She had been confined to bed for three weeks. Difficulty was experienced in passing the catheter from the swelling of the external parts; the urine resembled the contents of a psoas abscess, but was more fetid. The entire cavity of the pelvis was occupied by a tumour which caused protrusion of the anus, and also eversion of the lower extremity of the bowels. The os uteri was far beyond the reach of the finger, and the fundus was situated within less than one inch from the anus, so that a finger could with difficulty be introduced into the rectum.

Mr. B. attempted reduction by the hand in the vagina, but after a prudent exercise of force desisted and sent for two of his colleagues. The patient was now restless and much exhausted, and her pulse rapidly failing. Mr B. proposed puncturing the fundus of the uterus, after another unsuccessful attempt at reduction by pressure from the rectum and vagina.

His colleague, Mr BLOUNT, made an unsuccessful attempt, by means of a curved metallic instrument, to puncture the membranes through the os uteri. Mr BAYNHAM then pushed a trocar from the rectum into the uterus; there being no evacuation, the instrument was withdrawn and introduced a second time. About twelve ounces of colourless fluid escaped with some difficulty, and in a quarter of an hour the reduction of the uterus was effected by pressure on its fundus; the os uteri was now found partially dilated, and the membranes somewhat protruding. Labour pains occurred in the evening of the 29th, and in one hour were sufficient for delivery. The ovum was entire and still contained ten ounces of fluid; the fetus was perfectly fresh, and of the ordinary size at six months. The trocar had penetrated the substance of the placenta each time, near the chord, and once had entered the abdomen of the child, forming an aperture through which nearly the whole of the small intestines had subsequently been protruded by the pressure during labour.

The catheter was but once used after delivery, when a pint of equally offensive urine was evacuated. Incontinence of urine succeeded and lasted for five weeks. The patient suffered much from irritation and inflammation of the gen-

itals, from fever, &c.; but on the 17th of May was sufficiently recovered to leave home and attend to her usual occupation. Menstruation occurred in the first week of June, and she has continued in good health since that period.

58. *Retroflexion or partial retroversion of the Uterus.*—Mr BAYNHAM details the particulars of a case in which a complete retroversion did not occur, but which proved fatal, owing to the nature of the accident not being well ascertained, and of course inadequate means being adopted. DENMAN and others suppose that it can only occur immediately after parturition, where the female bears down before the uterus has sufficiently contracted.

A woman, aged forty years, entered the Birmingham dispensary three days before her death. She was not conscious of pregnancy. Retention of urine occurred ten days previously to her admission, while under the charge of an apothecary. He once succeeded, after causing much pain, in obtaining a large quantity of bloody urine, but could not afterwards pass the catheter. The diagnosis was obscure, as the woman, who had been the mother of several children, did not acknowledge herself pregnant. Her belly was swollen, but a tumour could be felt between the umbilicus and pubis, inclining rather to the right side. The vagina was so limited by a tumour in the pelvis, that the introduction of the finger was difficult. The surgeon once only succeeded in drawing off the urine, notwithstanding many attempts were made to carry the catheter into the bladder, and yet the instrument always passed freely, though no discharge of urine followed. Every unsuccessful operation was attended by great pain, and generally by a free discharge of blood. The patient died exhausted on the thirteenth day of her illness.

Dissection. The belly was large and tense; before the body was opened, a long catheter was many times introduced, and this with extreme facility, but not in any instance with the purposed effect. The intestines were found pushed up, and the inferior portion of the abdomen occupied by a double tumour, unequally divided by a tense chord of peritoneum. There was no disease of the peritoneum or of the abdominal viscera. Fluctuation was evident in both portions of the tumour; an elastic catheter introduced *per urethram* appeared in the posterior swelling, the contents of which did not, however, escape. Eventually the catheter passed into the bladder, and three pints of bloody urine were evacuated. The anterior swelling subsided and the uterine tumour was exposed. The mucous membrane of the bladder was highly inflamed. The uterus was carefully laid open, and it was found that the catheter had passed from the urethra, through the os uteri, between the membranes and parietes of the uterus, as nearly two pints of liquor amnii escaped upon a division of the membranes, and a five months' fetus was in part exposed. The head, chest and upper extremities were still very tightly retained in the pelvis. The os uteri was immediately under the arch of the pubis, and bearing on the urethra, *the cervix uteri* was much curved, and a considerable part of the organ situated above the brim of the pelvis, while the fundus rested in the hollow of the sacrum, constituting a retroflexion or partial retroversion. The catheter had been *forced* through the urethra, where it formed an angle, and then passing in a direct line entered the mouth of the womb. It is singular, that in the numerous trials with the catheter, this instrument was not forced through the membranes of the fetus; the case might then have terminated favourably.

59. *Premature Labour.*—Dr CAMPBELL gives a case of premature labour artificially excited, in the Edinburgh Medical and Surgical Journal for April last. The fetus was born alive, but afterwards perished from convulsions, in consequence of the injury received during birth. Dr C. is a decided advocate for inducing premature labour in cases of moderate deformity of the superior strait; but contends that the child's safety is much endangered by puncturing the membranes and allowing the liquor amnii to escape. He says, it is merely necessary, by means of the finger, or a small cathether, *to separate the membranes from the uterus for a short distance.* Labour usually supervenes in from three to

seven days; the patient should walk about, and occasionally take a cathartic. She should avoid straining, so that the membranes need not be ruptured, if possible, until the head is about to make its exit from the vagina. In this way the child suffers less from pressure.

60. *Cæsarian Operation.*—In the Jour. des Progrés, Jan. 1830, is recorded the opinion of the celebrated Madame Boivin, Doctor in Medicine, as to the best method of performing the Cæsarian operation. In cases of deformity demanding this measure, the uterus is usually higher up than ordinary, from the contraction of the superior strait, and suffering some degree of obliquity, as well from the diminished size of the abdomen as from the usual projection of the spine. In operating, the surgeon has been anxious to obviate this displacement by pressing the uterus towards the linea alba, where he makes his external incision, so that he may incise the uterus immediately on its anterior surface and at the median line; sometimes even at its fundus. Hence, says Mde B., it results, that the uterus is opened where the vessels are the largest and most numerous, where the muscular fibres are the thickest, and where, owing to their circular direction, they retract on division with a force proportioned to the contractility of the uterus. The edges of the wound separate and are everted; they become much thickened; the numerous vessels continue to pour out blood, often so as to fill the cavity of the peritoneum, and this hemorrhage becomes, in most cases, a cause of death, and explains the frequency of a fatal result.

To obviate these dangers, Mde B. would recommend that the obliquity of the uterus should be increased, carrying this organ as much as possible to one side, so as to raise still more the neck of the uterus from the superior strait, and that the incision into its cavity be made through the cervix, in the direction of its fibres; that is, obliquely from below upwards, and to extend from the centre to one of the sides, avoiding carefully the round ligament, which will be found more anterior than usual from the obliquity of the uterus. At the full period of gestation the neck of the uterus forms one-third of the whole organ; it is also the thinnest part, being only a line or a line and a half in thickness, and also the most elastic as well as the least vascular portion of the viscus. An incision of about two inches in length will be sufficient to apply, one after the other, the branches of the strait forceps for the prompt delivery of the head, should the powers of the uterus not be sufficiently active. An incision, two inches and a half, will allow of the gradual introduction of the hand for delivering by the feet, as the wound will dilate from the tractive force required for delivering the fetus.

By making a small incision through the abdominal parietes near the pubis, the bladder may be avoided, and there is less danger of a prolapsus of the intestines; and by dividing the cervix uteri near the vagina, the flow of blood, which is very trifling, occurs by the natural orifice, or should it escape into the abdomen, it is less dangerous and profuse than that caused by a section of the body of the uterus. Mr Charles Bell has promulgated similar doctrines.

61. *Cæsarian Operation after the Death of the Mother.*—In the Révue Médicale for January 7, M. Huguier relates a case in which he resorted to the Cæsarian operation on the body of a female, five minutes after death, which occurred suddenly from pulmonary hemorrhage. The infant was extracted by the feet, and presented few indications of life, being pale, bloodless, without motion, while the pulsations of the heart were hardly perceptible. The chord was tied before it was divided; frictions with warm cloths were made over the præcordia; air was blown into the mouth, and the infant was immersed in a warm bath. Soon respiration commenced, and the child cried. It continued to live. The friends did not allow the body of the mother to be dissected.

IX. CHEMISTRY.

62. *New Process for preparing the Bicyanuret of Mercury.*—In the Journal de Chimie Médicale, for Jan. 1830, MM. A. CHEVALLIER and DELESCHAMPS give the following process for obtaining this compound, which they have practised for the last six years with success:—

Put eight ounces of ferrocyanate of potassa, reduced to coarse powder, into a balloon, and add eight ounces of distilled water, allowing the whole to stand for several hours. Place the balloon over a furnace, and stop the tubulure with a cork, fitted with two tubes; one an S tube, the other bent twice at right angles, and plunging, at its farther extremity, to the bottom of a bottle, of the capacity of six pints, and half filled with distilled water, containing six ounces and a half of peroxide of mercury, reduced to very fine powder. From this bottle a second bent tube proceeds in a similar manner, to the bottom of a second bottle, containing five or six ounces of distilled water. This water is for the purpose of condensing the hydrocyanic acid vapour, which may escape combination with the peroxide of mercury in the first bottle.

The apparatus being mounted, and the lutings, which must be carefully done, being dry, six ounces and a half of sulphuric acid, diluted with five ounces of water, are to be added through the S tube. A few burning coals are then put on the furnace to promote the action, and the temperature is gradually raised to ebullition. The heat is to be continued about an hour and a half. During the operation, care must be taken to keep the bottles cool, either by a stream of water, or a freezing mixture, and at the same time, so to regulate the heat, that the contents of the balloon may not swell up and pass over into the first bottle.

When the distillation is finished, the apparatus is allowed to cool, and then taken apart. The contents of the two bottles are then mixed, and the whole shaken to promote the solution of any peroxide of mercury which may have remained undissolved. If, afterwards, any excess of acid should remain, it must be treated with a fresh portion of peroxide, so long as any of it is dissolved. The liquor is then filtered and evaporated until crystals begin to form, when it is allowed to cool. Crystals of the bycyanuret will be deposited, which are to be washed with a little distilled water, and allowed to drain and dry. By evaporating the mother-waters, a second crop of crystals will be obtained, of smaller size, but very handsome. The liquor left may be made to furnish a third crop, by adding a little hydrocyanic acid to supply the loss of acid consequent on the previous evaporations.

By this process MM. C. and D. have obtained from seven to eight ounces of bicyanuret of mercury from the quantities of materials here given. They state their conviction that this is a more economical process than that of SCHEELE, adopted in the Paris Codex.

63. *Metallic Radical of Magnesia.*—In the Journal de Chimie Médicale for March, 1830, we have the following account of the complete decomposition of magnesia, by M. BUSSY.

When M WŒLHER, in 1828, published his method for obtaining the metal of alumina, by the decomposition of the chloride of aluminium by potassium, M. BUSSY supposed from analogy, that glucinium might be obtained in a similar manner from the chloride of glucinium. Experiment showed the correctness of this opinion. Since then, he has been successful in insulating magnesium from the chloride of magnesium.

Preparation of the chloride of magnesium. Though magnesia at a red heat may be decomposed by chlorine, yet the chloride is obtained with difficulty in this way. It may, however, be obtained readily by previously mixing the magnesia with finely divided charcoal. For this purpose, M. BUSSY mixes together equal parts of calcined magnesia and starch, by the aid of a little water, and divides the whole into small pieces, which are strongly calcined in a covered crucible. The pieces are then placed in a tube of porcelain, through which a

current of chlorine is passed, and the tube heated to redness. After some time the chloride of magnesium runs along the tube, and solidifies at its extremity. It is in the form of a white crystalline mass, exhibiting, when broke, large, brilliant laminæ, slightly flexible, and having the aspect of spermaceti. It is very soluble in water, and of a sharp and bitter taste. When exposed to the air it attracts moisture very rapidly.

Preparation of the magnesium. A glass tube is selected, rather strong, about the third of an inch in internal diameter, and fifteen or twenty inches long, and bent at one end in the form of a retort. After having introduced five or six pieces of potassium, about the size of a pea, into the bent as well as the straight part of the tube, fragments of the chloride of magnesium are placed in it, separated from each other by bits of porcelain, to prevent them on fusion from running together into a mass. This portion of the tube is then heated, and when it has nearly attained a dull red heat, the potassium is made to pass in a state of vapour, by heating the bent part of the tube. A strong incandescence immediately occurs, which extends gradually throughout the whole tube. When the tube has cooled, the matter within it presents white metallic globules, disseminated in the undecomposed chloride. When thrown into water, some hydrogen is disengaged, due to the presence of some potassium, and magnesia precipitated from the action of the potassa on the chloride, and brilliant globules, having the lustre and whiteness of silver, fall to the bottom of the vessel.

Properties of magnesium. White like silver. Very brilliant and very malleable. Fusible at a moderate temperature. Unalterable in dry air, but losing its metallic lustre in a moist atmosphere, in consequence of the formation of a superficial layer of oxide. When burnt in minute portions, it scintillates like iron in oxygen, but larger pieces are converted slowly and with difficulty into pure magnesia. Pure water deprived of air, has no action on it, unless when boiling, when a few bubbles of hydrogen are disengaged. Certain saline substances promote remarkably the decomposition of water by magnesium. Dilute acids dissolve it with disengagement of hydrogen. It unites with mercury, but not without the aid of heat, and destroys the fluidity of that metal even when present in very small quantity.

64. *Best Precipitant of Morphia.*—Under the head of Materia Medica and Pharmacy will be found an account of M. Blondeau's method of facilitating the extraction of morphia by fermentation. In the report made to the French academy on this method by MM. Guibourt and Robiquet, we have the following interesting passage, in which M. Robiquet alludes to himself. "We may, moreover, add, as a sort of justification of the process attributed to one of us, that magnesia was used instead of ammonia, not because it was considered the best precipitant, but because its use removed all ambiguity as to the alkalinity of the morphia, a property at that time considered so extraordinary as to be almost incredible." We may infer from this passage that Robiquet gives the preference to ammonia as a precipitant for the extraction of morphia.

65. *Effects of Oxygen Gas in Respiration.*—Mr Broughton enclosed small animals under bell glasses filled with oxygen obtained from peroxide of manganese. At first the animals experienced no inconvenience from the respiration of the gas; but at the end of about half an hour their breathing became panting and the circulation more rapid. To this excitement succeeded a state of debility; respiration became weak and slow, and the sensibility and voluntary movements became gradually lessened, until at last nothing remained but a feeble contractility of the diaphragm. Upon opening the animal, after all contraction of the diaphragm had ceased, it was observed that the breast was still in a state of great activity. The blood, both in the veins and arteries, was of a bright scarlet colour; it was remarkably limpid and readily coagulated. The temperature of the body remained undiminished. If, before the diaphragm ceased to move, the animal was brought into the air, it recovered from the effects of the oxygen.

The air in which animals had in this manner perished, still contained sufficient

oxygen to cause an ignited stick to inflame, which proved that it did not contain the same volume of carbonic acid as is present in atmospheric air in which animals have been destroyed.

Mr Broughton concludes by stating that the symptoms caused by the respiration of pure oxygen gas, are similar to those which are produced by the action of certain poisons on the system.—*Journ. de Chimie Méd. Mars*, 1830.

Miscellaneous Articles.

In compliance with the request contained in our last to the various incorporated medical institutions, the circular of the Jefferson Medical College has been sent to us, with a request for a notice. We extract the following paragraphs:

The following gentlemen constitute the board of trustees:

Rev. Ashbel Green, D.D. L.L.D. President; Rev. Ezra Styles Ely, D.D. Secretary; James M. Broom, Esq.; Hon. Joel B. Sutherland; Gen. Wm. Duncan; Samuel Badger, Esq.; Rev. Gilbert R. Livingston; Hon. Edward King; Jacob Frick, M.D.; Hon. Daniel H. Miller.

The following is the organization of the medical faculty, viz:

Anatomy,—By Samuel M'Clellan, M.D.

Materia Medica and Obstetrics,—By John Eberle, M.D.

Chemistry,—By Jacob Green, M.D.

Theory and Practice of Medicine,—By Daniel Drake, M.D.

Surgery,—By George M'Clellan, M.D.

Institutes of Medicine, Medical Jurisprudence, and the Diseases of Women and Children,—By B. Rush Rhees, M.D.

The fee for attendance on each course is $15, or $90 for all the courses. The graduation fee is $15, and no other charge is made either on matriculation, or subsequently.

The whole expense is therefore less than $200 for the two full courses, required by law to entitle the student to graduation. One of these, at least, must be attended in this Institution; and it is further required, that the candidate shall have studied three years (inclusive of the terms of attendance on the Lectures) under the direction of a respectable practitioner of Medicine,—that he shall be twenty-one years of age—and having presented a Thesis on some Medical subject, shall give satisfactory evidence of his qualifications on an examination by the Faculty, which takes place immediately after the close of each session.

The annual commencements for conferring the degrees will not be delayed beyond the time requisite to complete the examination, that no unnecessary expense may be incurred by the student, for board. This may be procured in Philadelphia, at the rate of from $2 50 to $4, in very respectable houses, to which the Janitor will furnish references, without charge.

Ten students are by law admitted gratuitously, each session, (the sum of $20 only being paid by each to meet the current expenses of the Institution.) Application for the benefit of this provision, and all other communications to the Faculty, must be addressed to Samuel M'Clellan, M.D. Dean of the Faculty, at the Jefferson Medical College, Tenth near Walnut street, Philadelphia.

VACCINE INSTITUTION.

Baltimore, *June 12th*, 1830.

The "*Medical and Chirurgical Faculty of Maryland*," at their annual convention, held in Baltimore on the 7th instant, having established a "Vaccine In-

stitution," and appointed the subscriber agent, he respectfulty notifies the medical public, that he will keep a constant supply of *fresh genuine vaccine matter*, which may be had by application in person, or in writing, at all seasons of the year, and at an hour's notice.—Price for each vaccine *scab* or *crust*, two dollars, or by remitting five dollars (post paid), three crusts will be furnished.—All orders will be attended to with promptness and despatch, directed to

WILLIAM ZOLLICKOFFER, M.D.
Vaccine Agent.

ERRATUM.—In the minutes of the Medical Convention for revising the Pharmacopœia, contained in our last number, p. 449, the name of Dr PIERSON, of Cincinnati, was erroneously printed J. PIERSON, M.D.; it should have been CHARLES E. PIERSON, M.D.